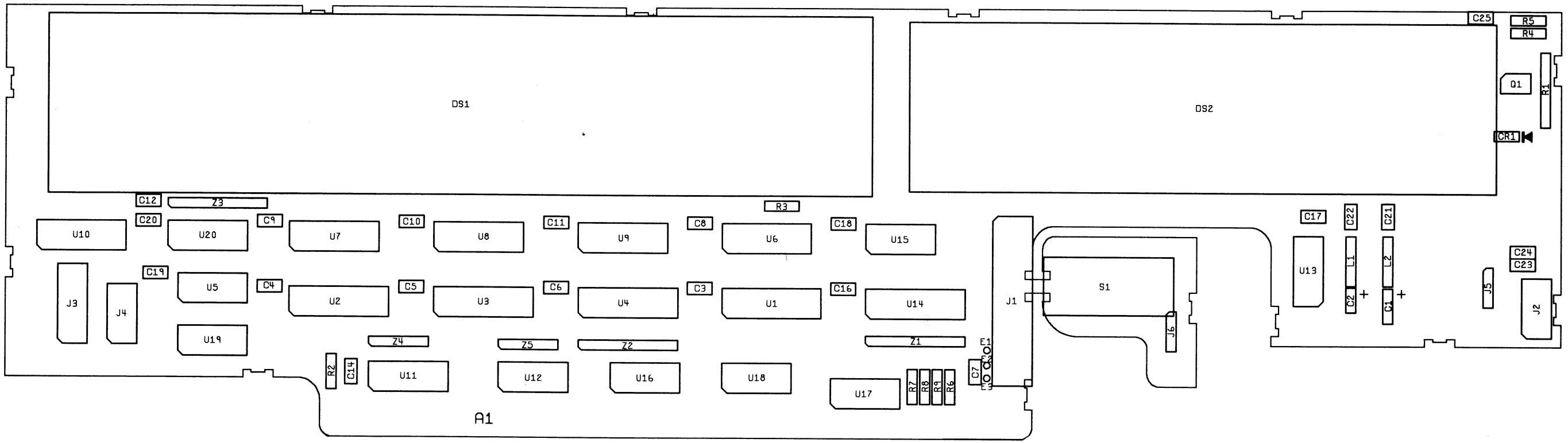
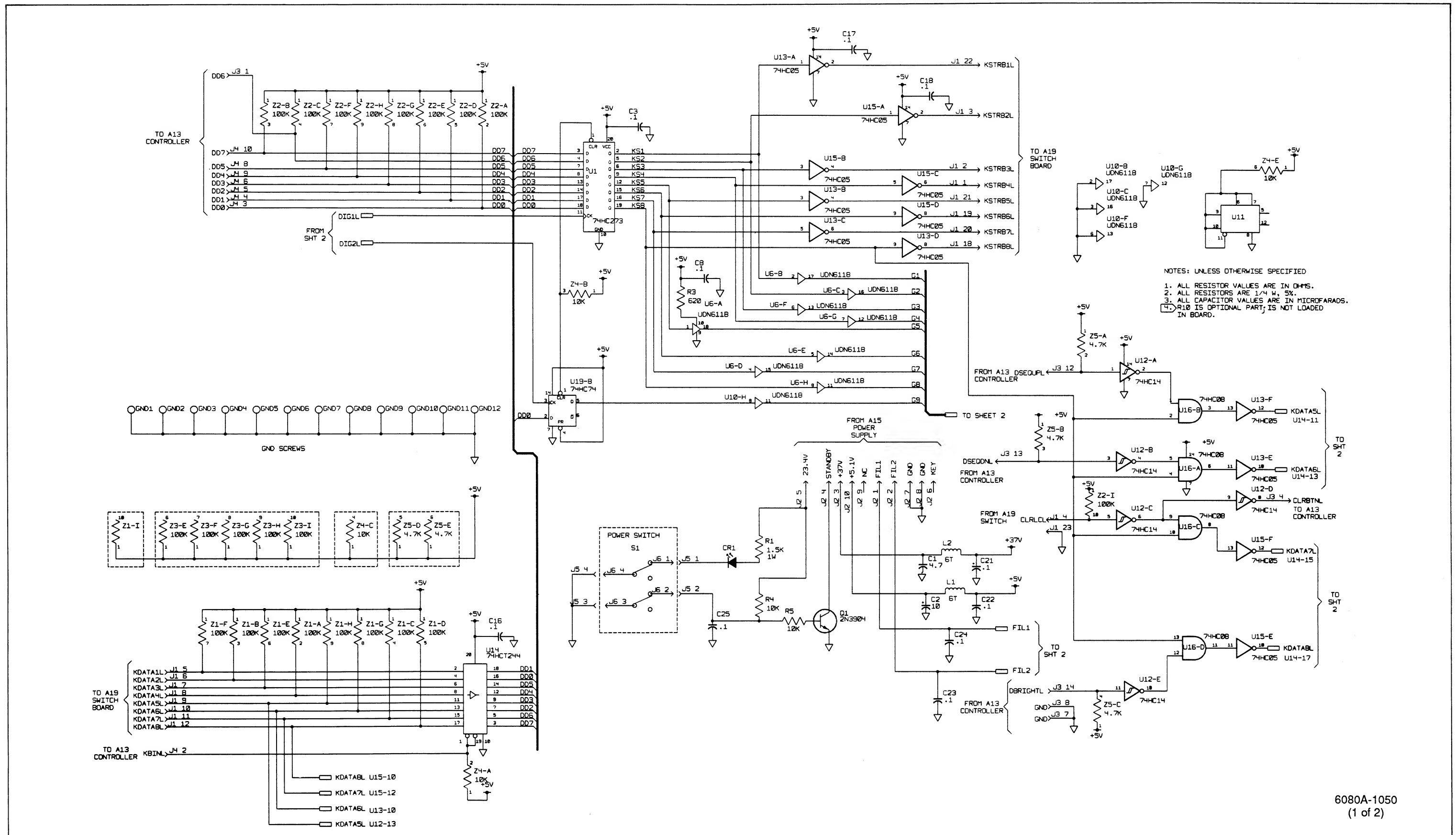


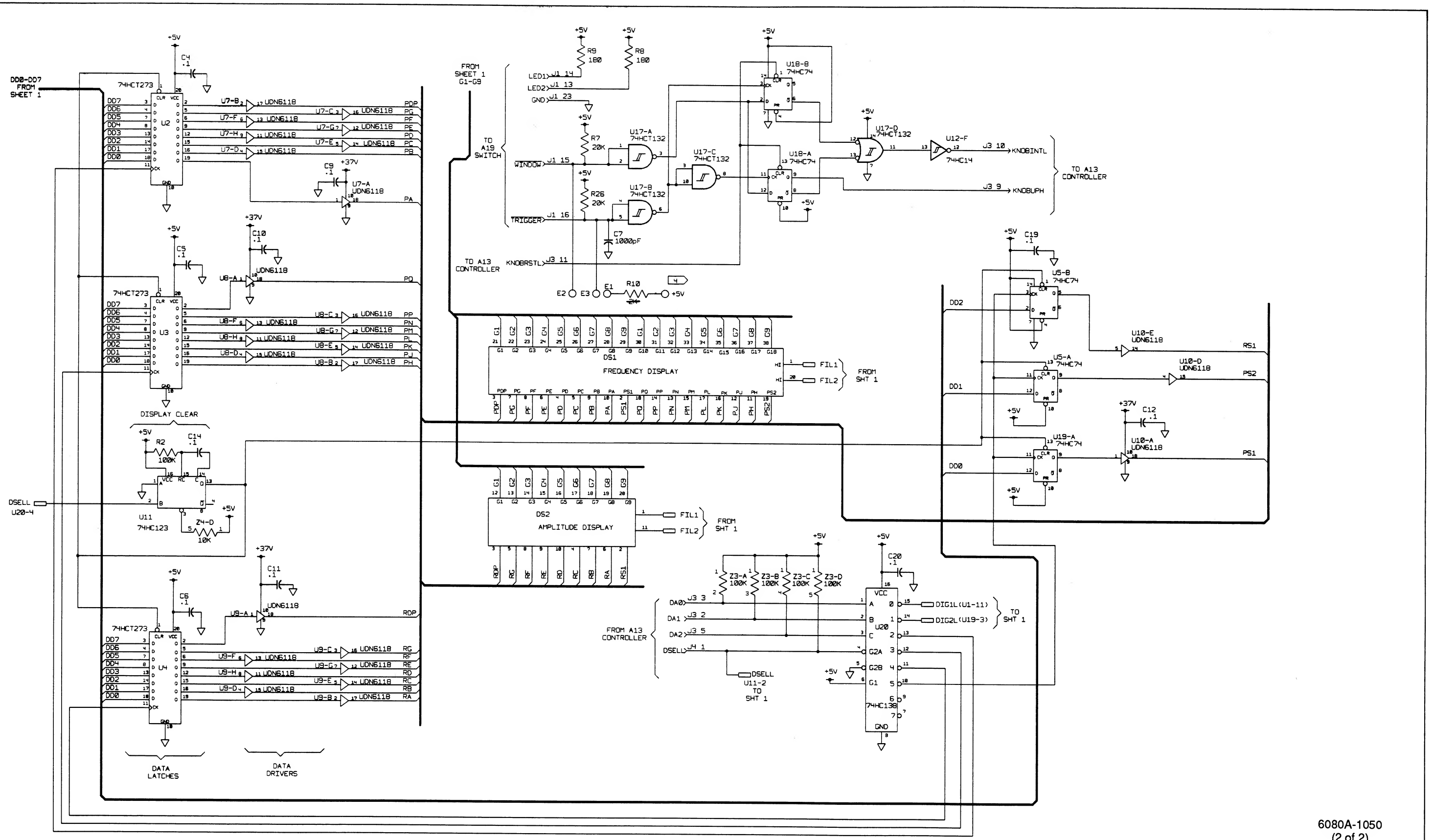
6080A-1604

Figure 8-1. A1 Display PCA



6080A-1050
(1 of 2)

Figure 8-1. A1 Display PCA (cont)



6080A-1050
(2 of 2)

Figure 8-1. A1 Display PCA (cont)

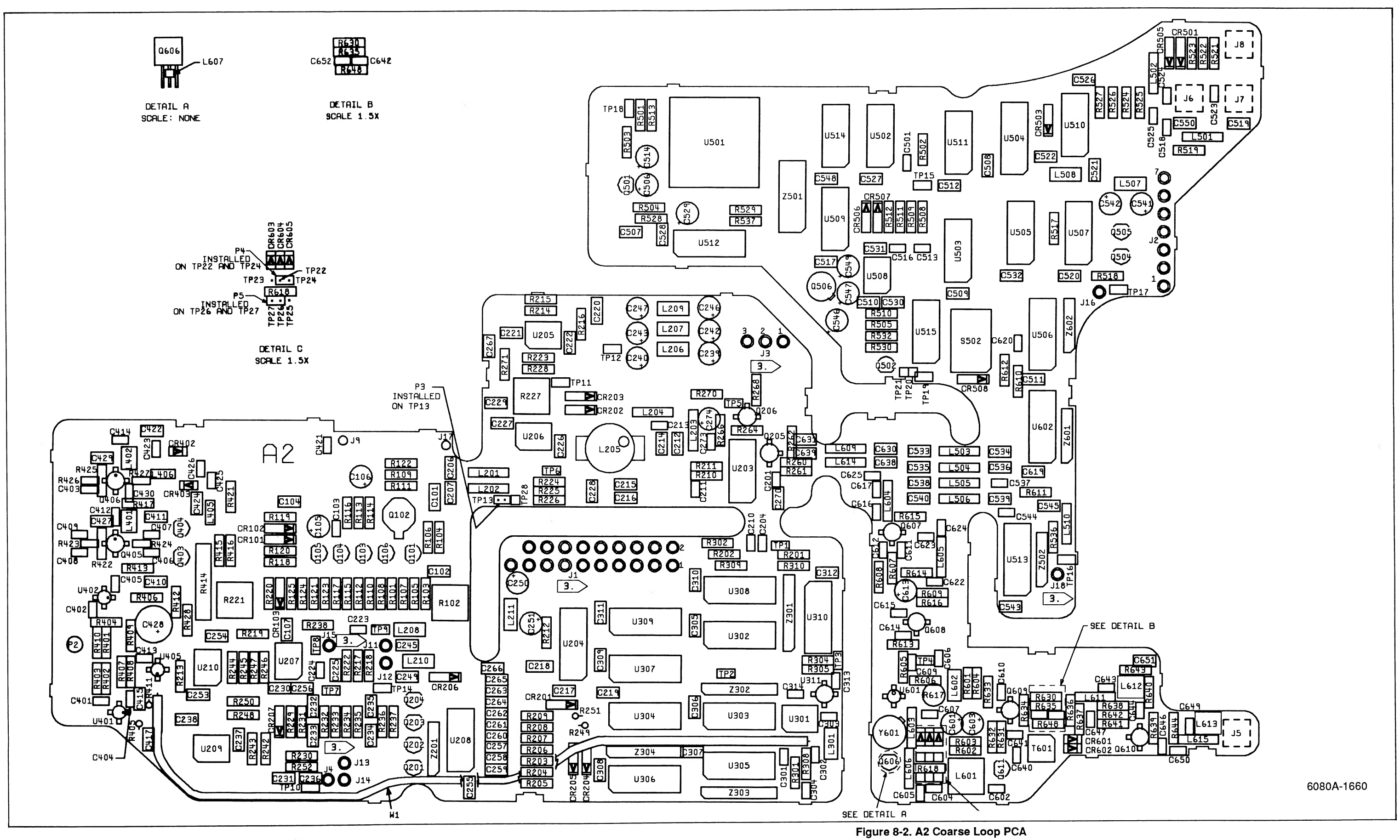


Figure 8-2. A2 Coarse Loop PCA

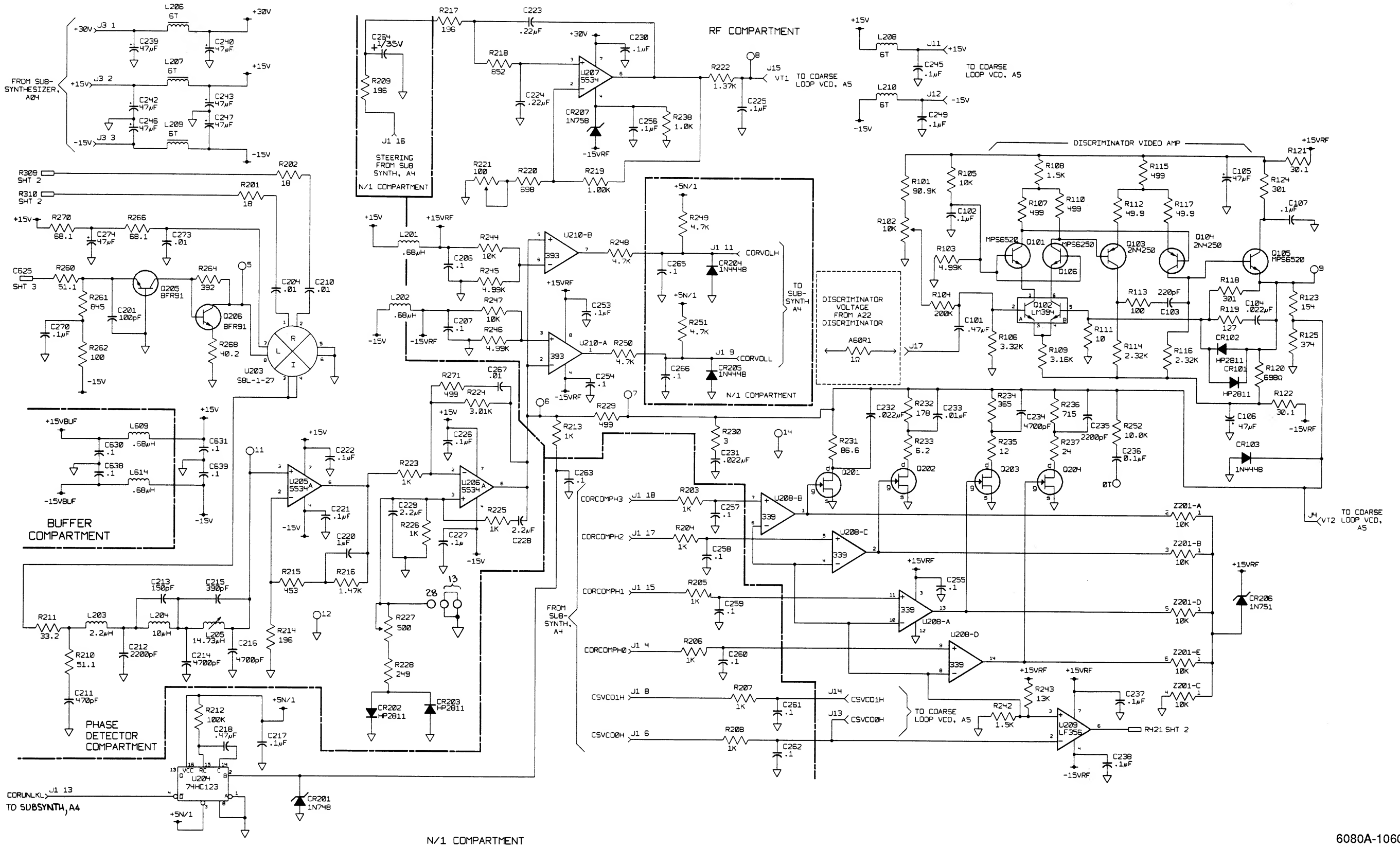


Figure 8-2. A2 Coarse Loop PCA (cont)

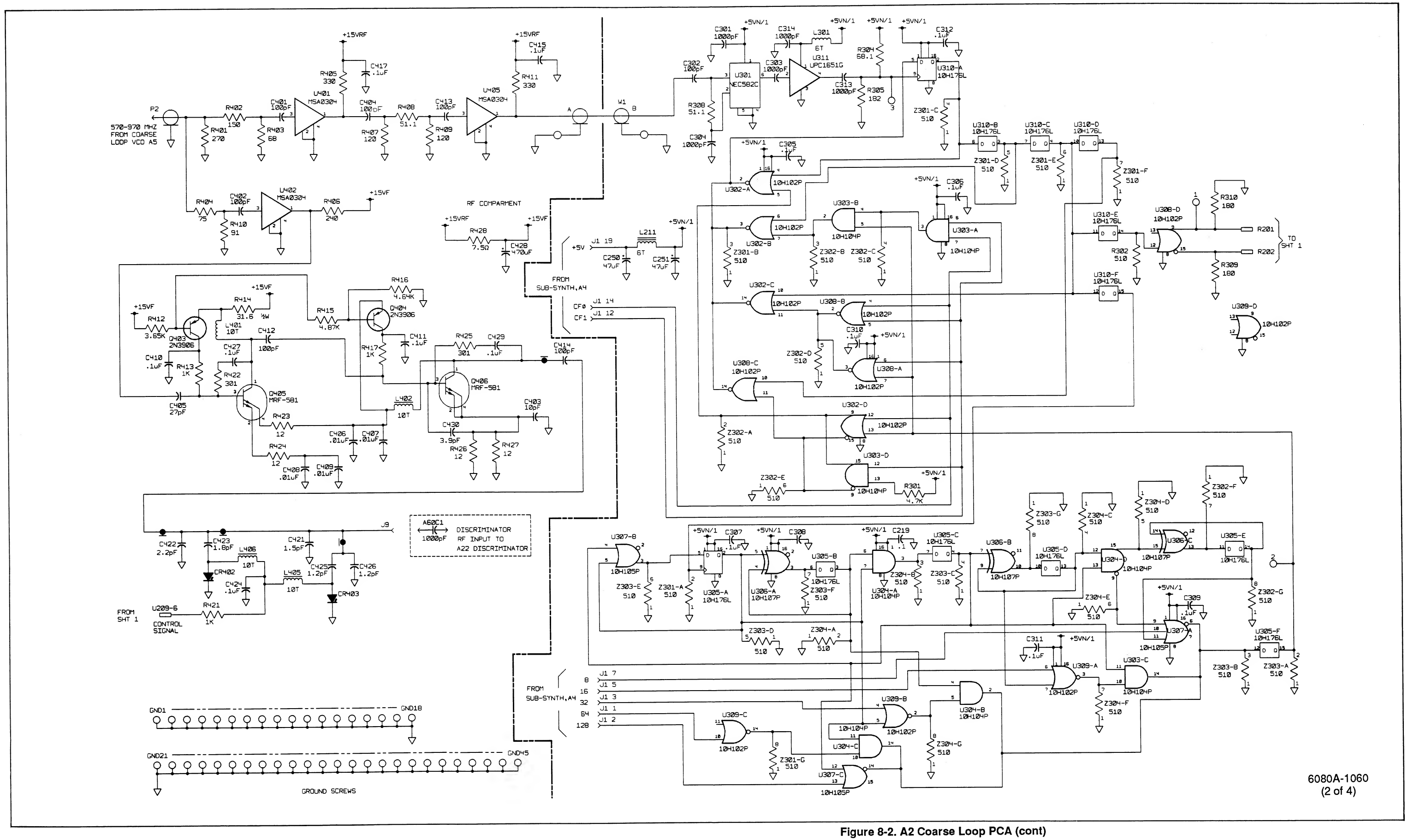


Figure 8-2. A2 Coarse Loop PCA (cont)

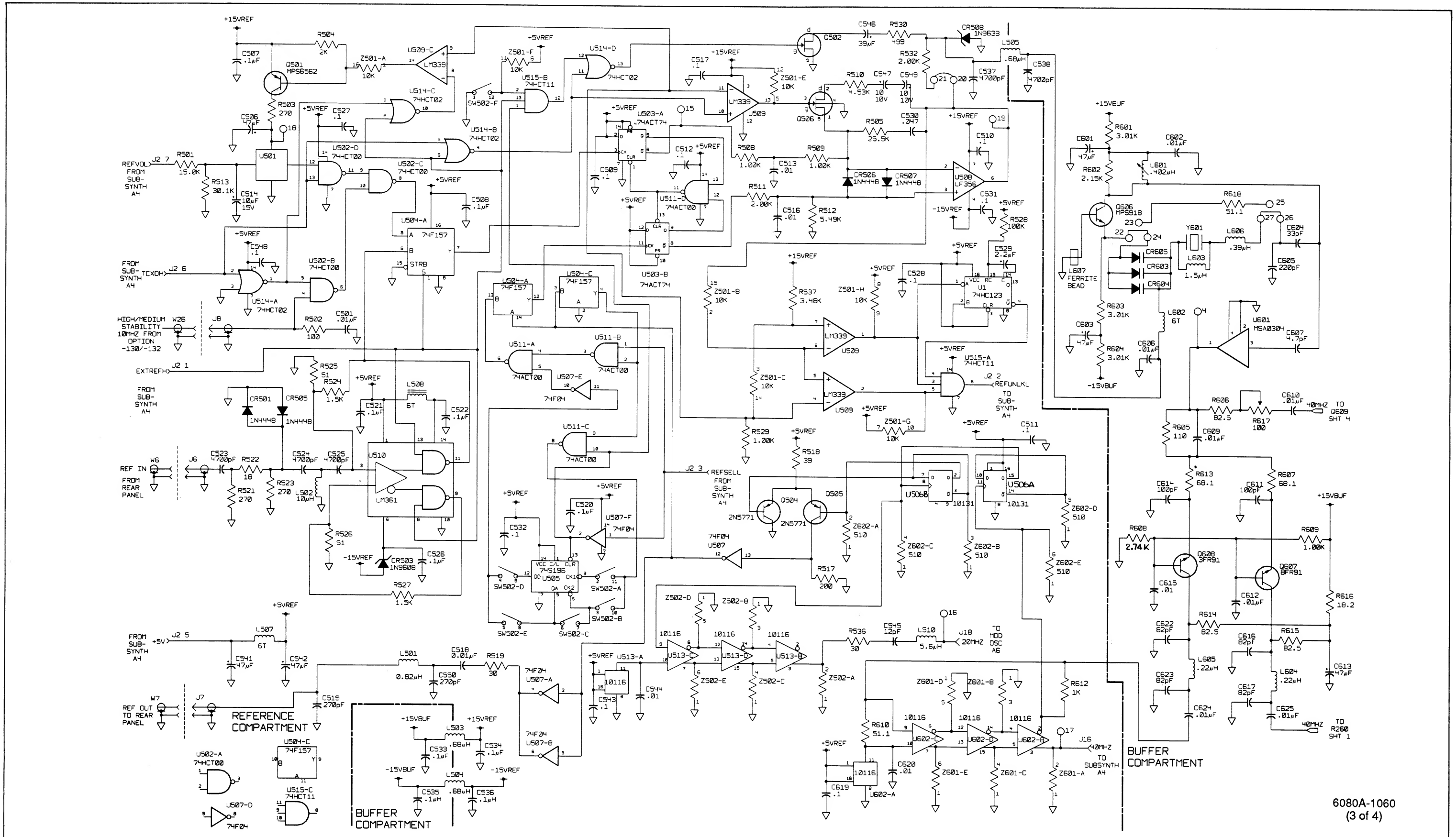
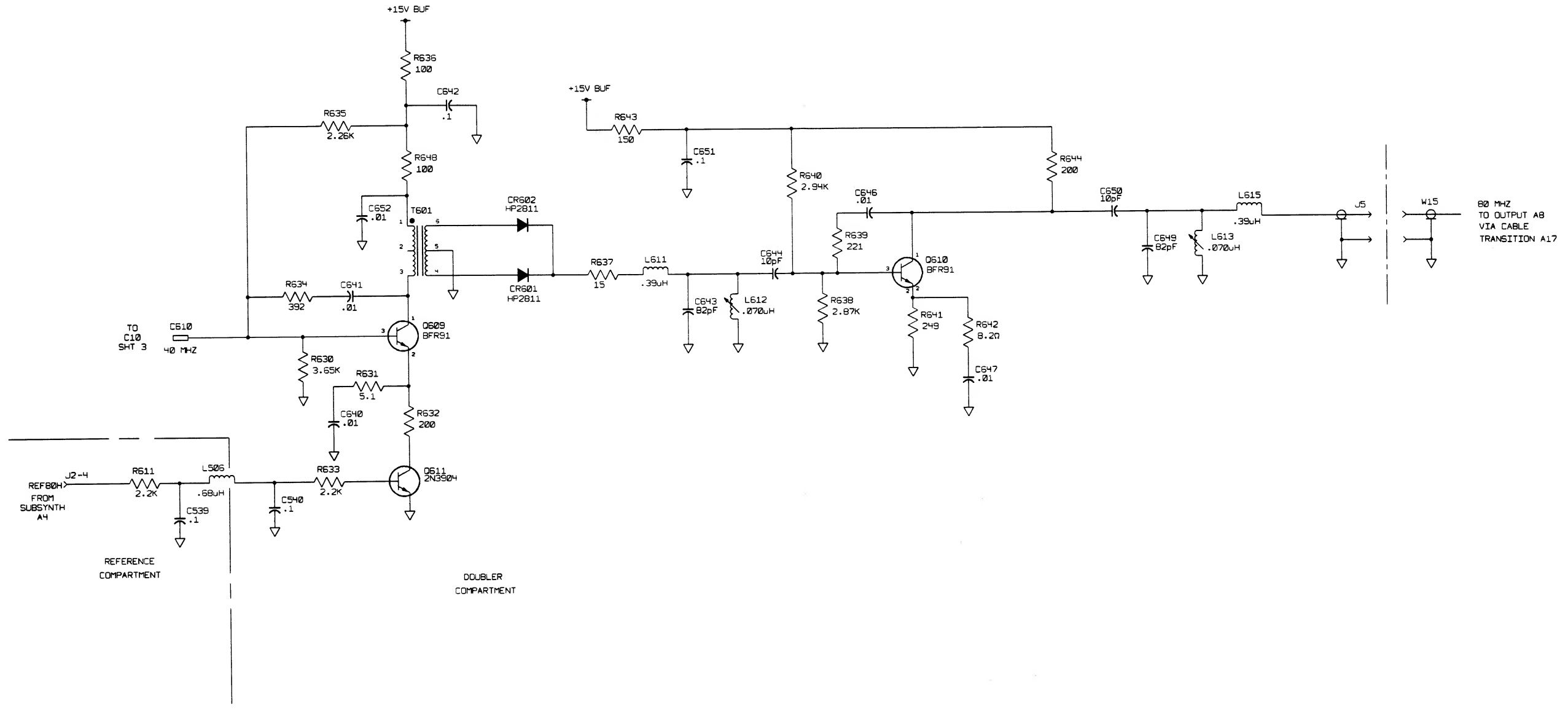
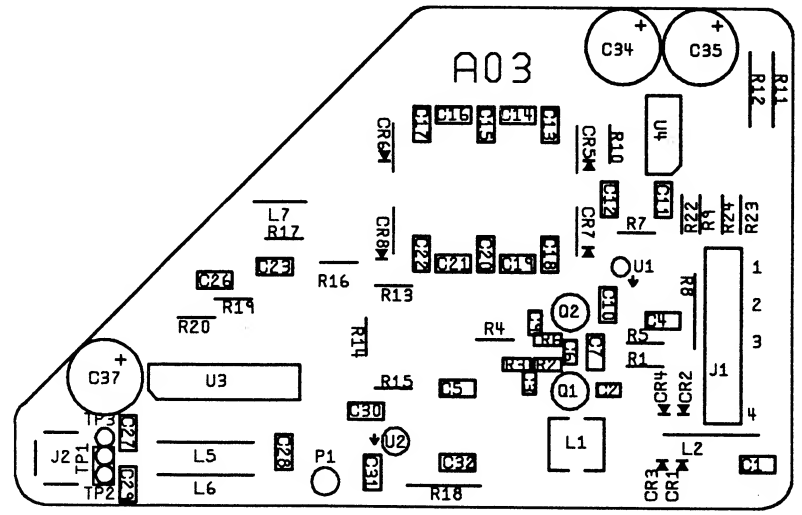


Figure 8-2. A2 Coarse Loop PCA (cont)

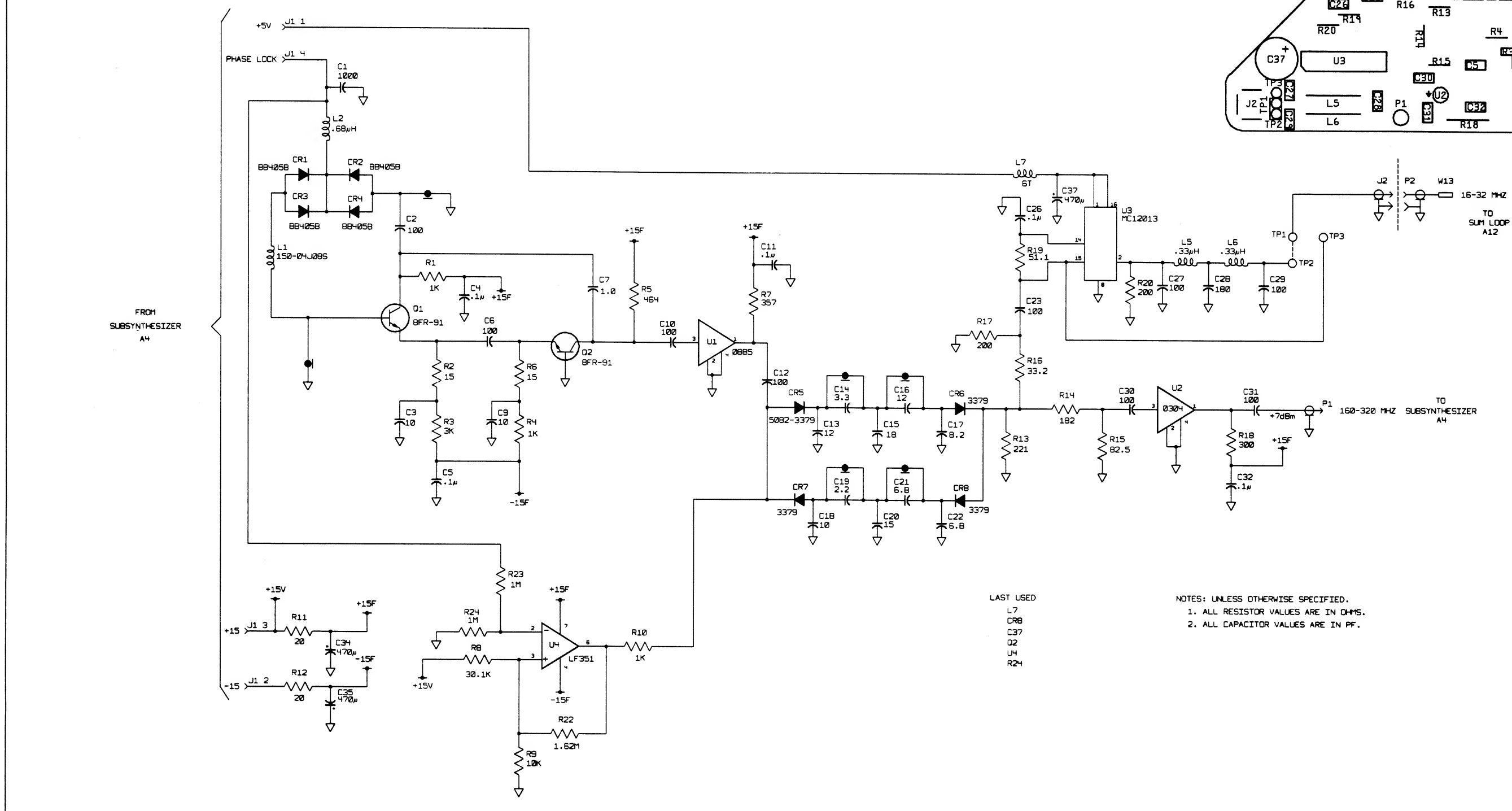


6080A-1060
(4 of 4)

Figure 8-2. A2 Coarse Loop PCA (cont)



6080A-1607



6080A-1061

Figure 8-3. A3 Sub-Synthesizer VCO PCA

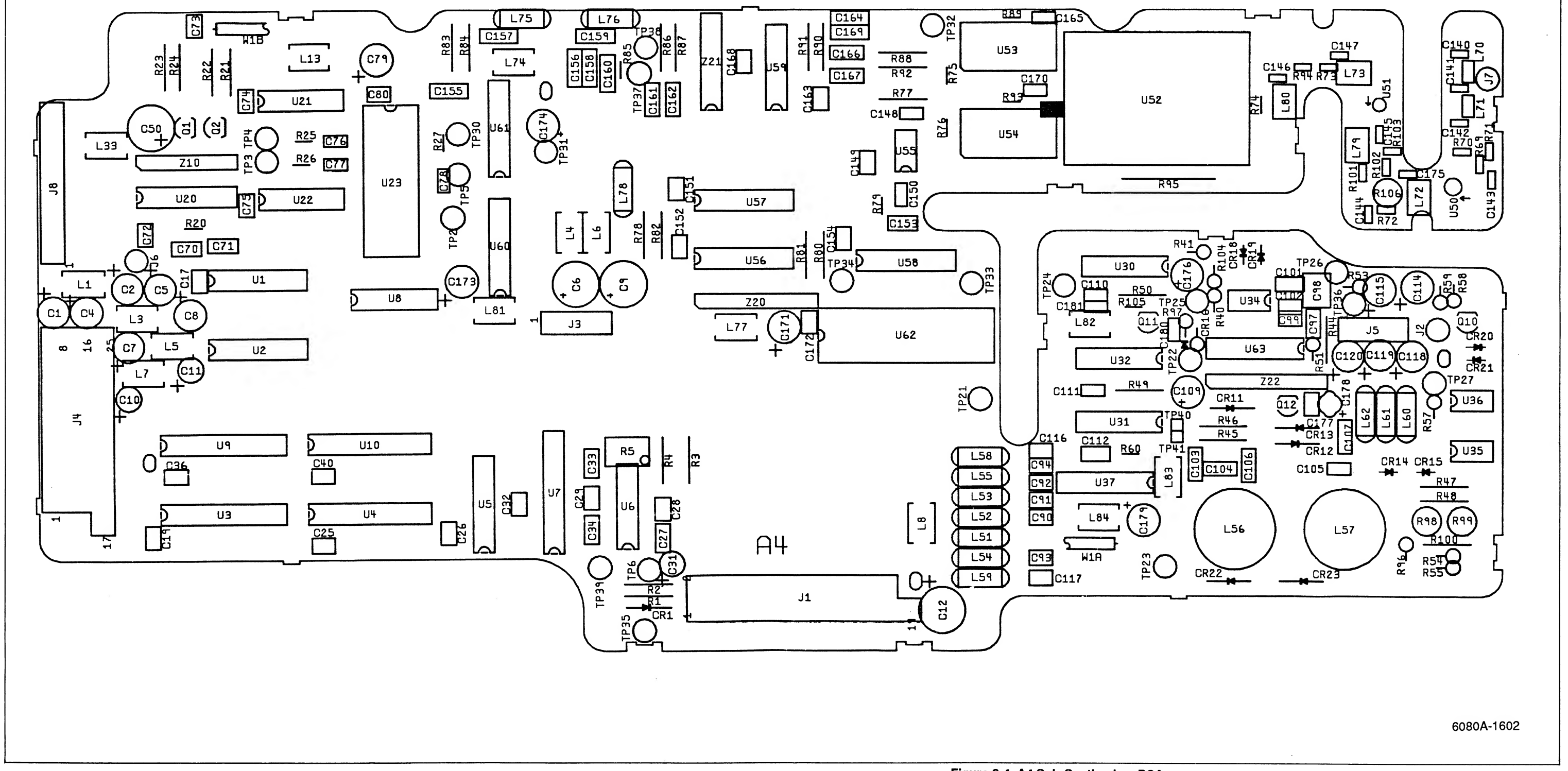
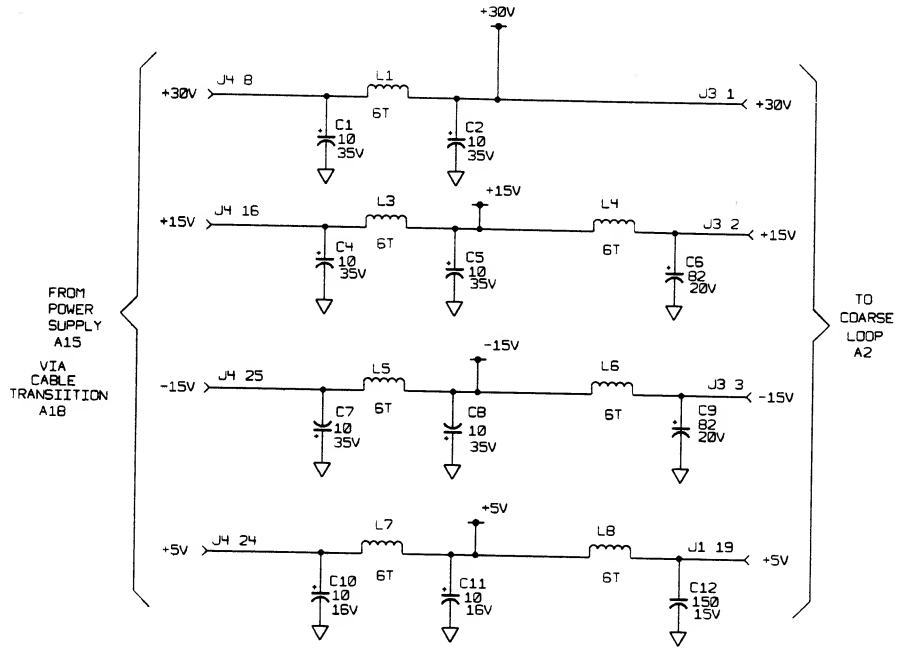
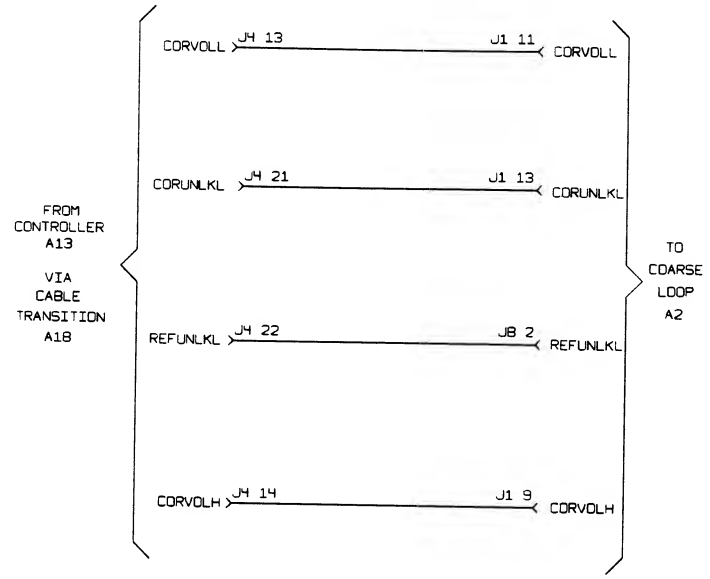
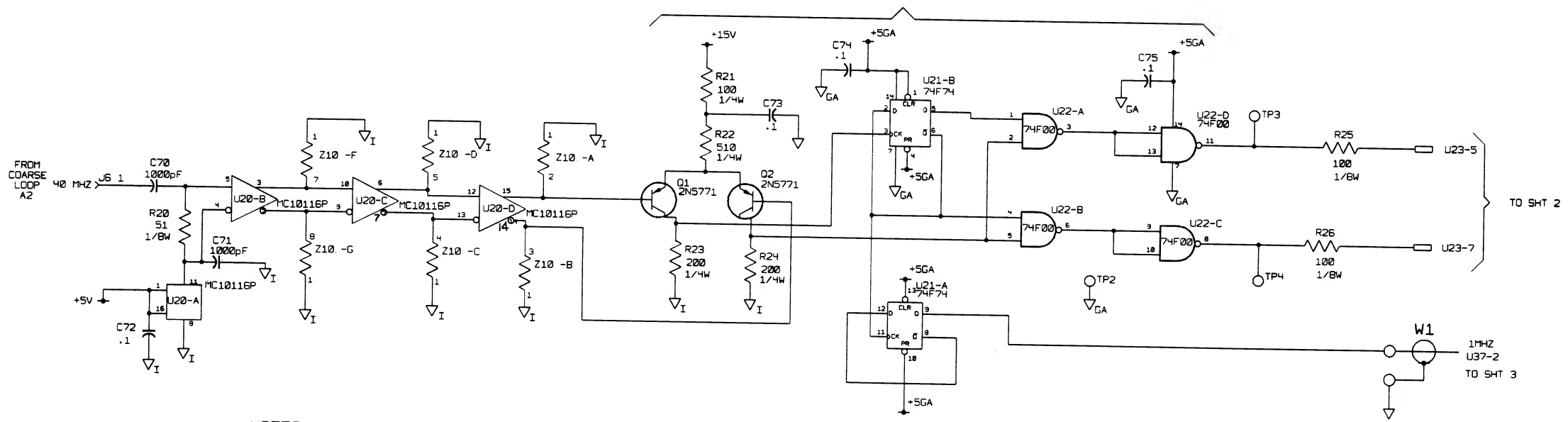


Figure 8-4. A4 Sub-Synthesizer PCA





2 PHASE 20 MHZ CLOCK GENERATOR



NOTES: UNLESS OTHERWISE SPECIFIED,
1. ALL RESISTORS ARE 1/4W, ± 5%.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.
3. ALL RESISTOR VALUES ARE IN OHMS.
4. ALL INDUCTOR VALUES ARE IN MICROHENRIES.

6080A-1062
(1 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)

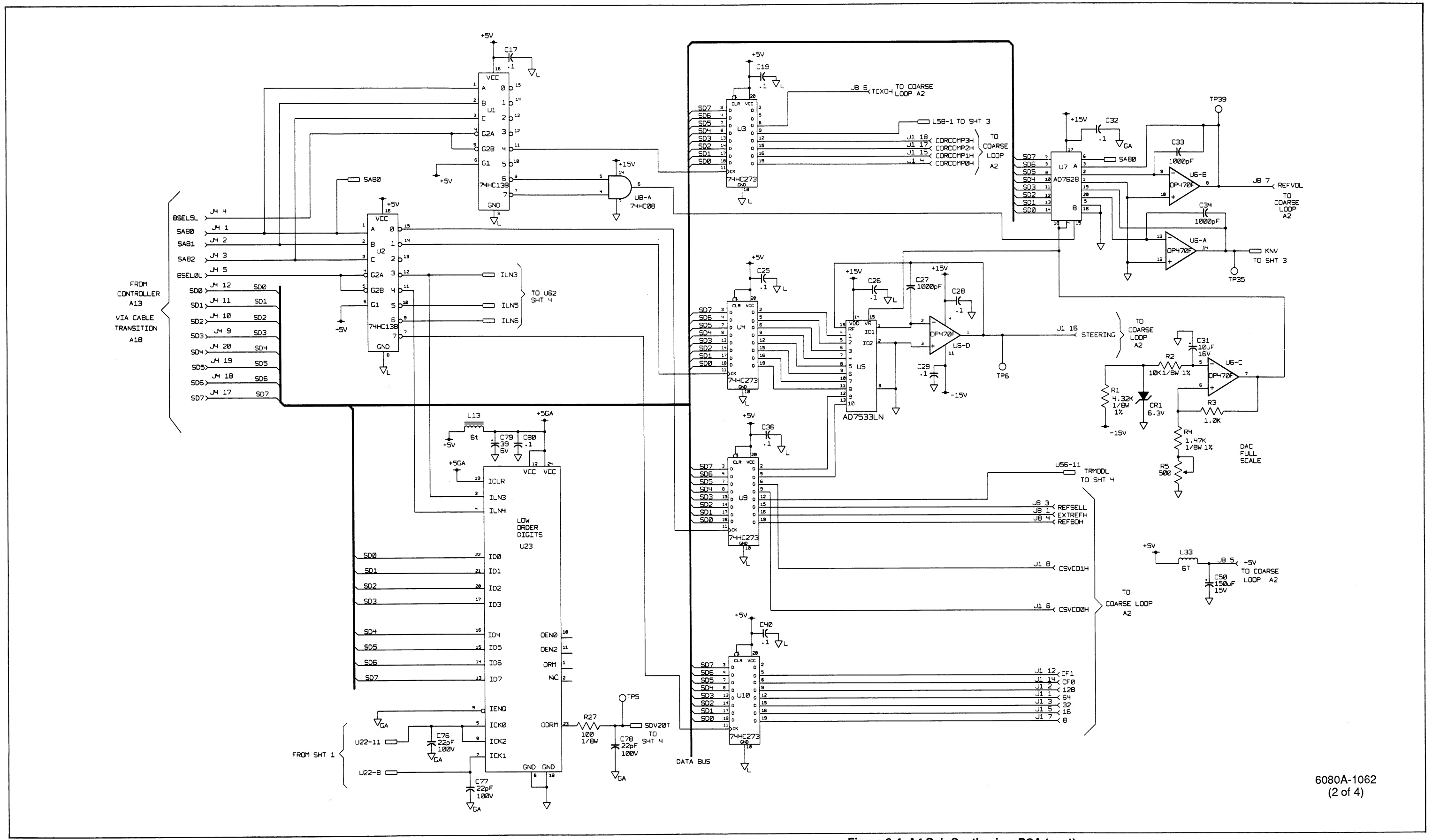
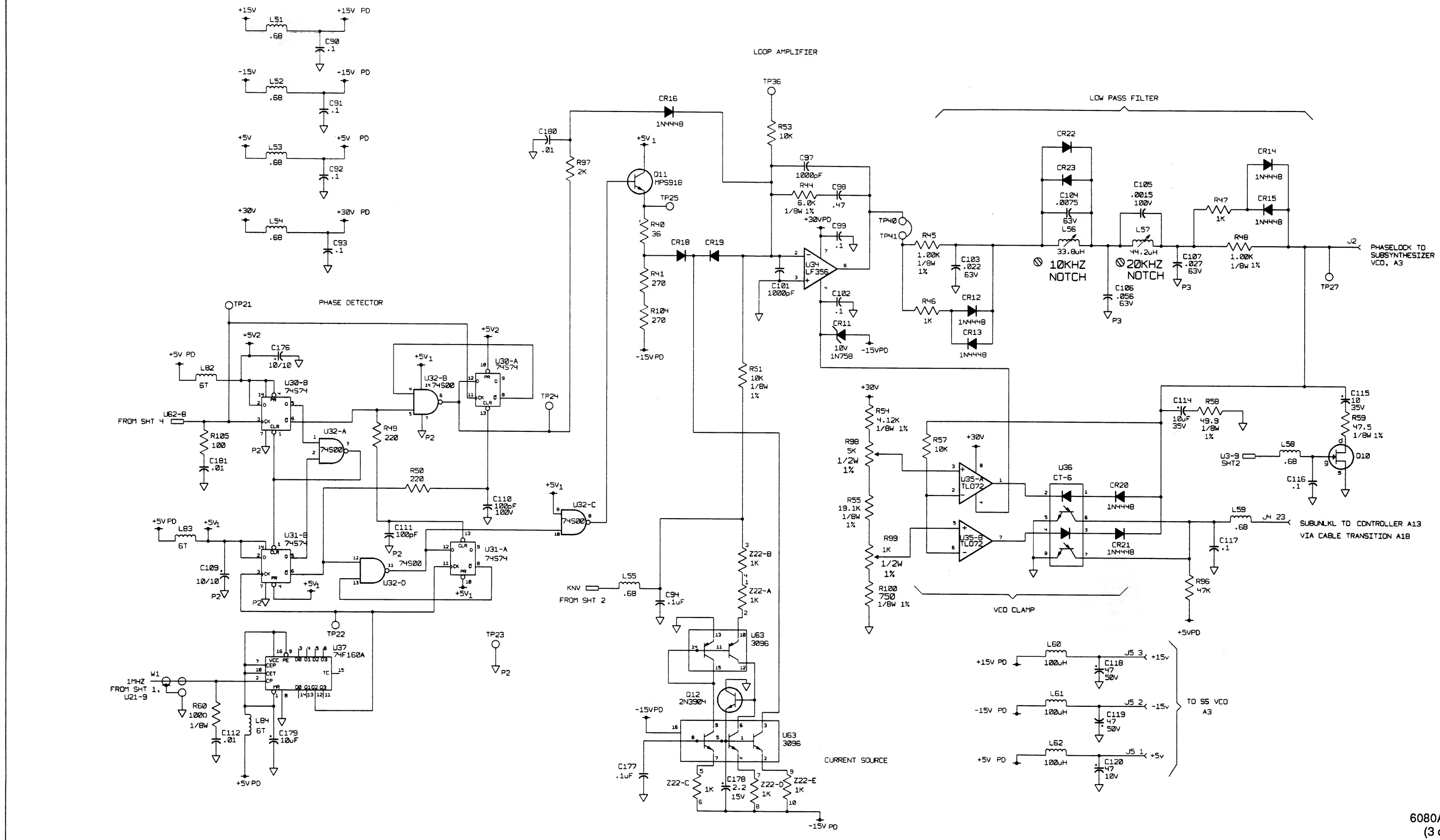
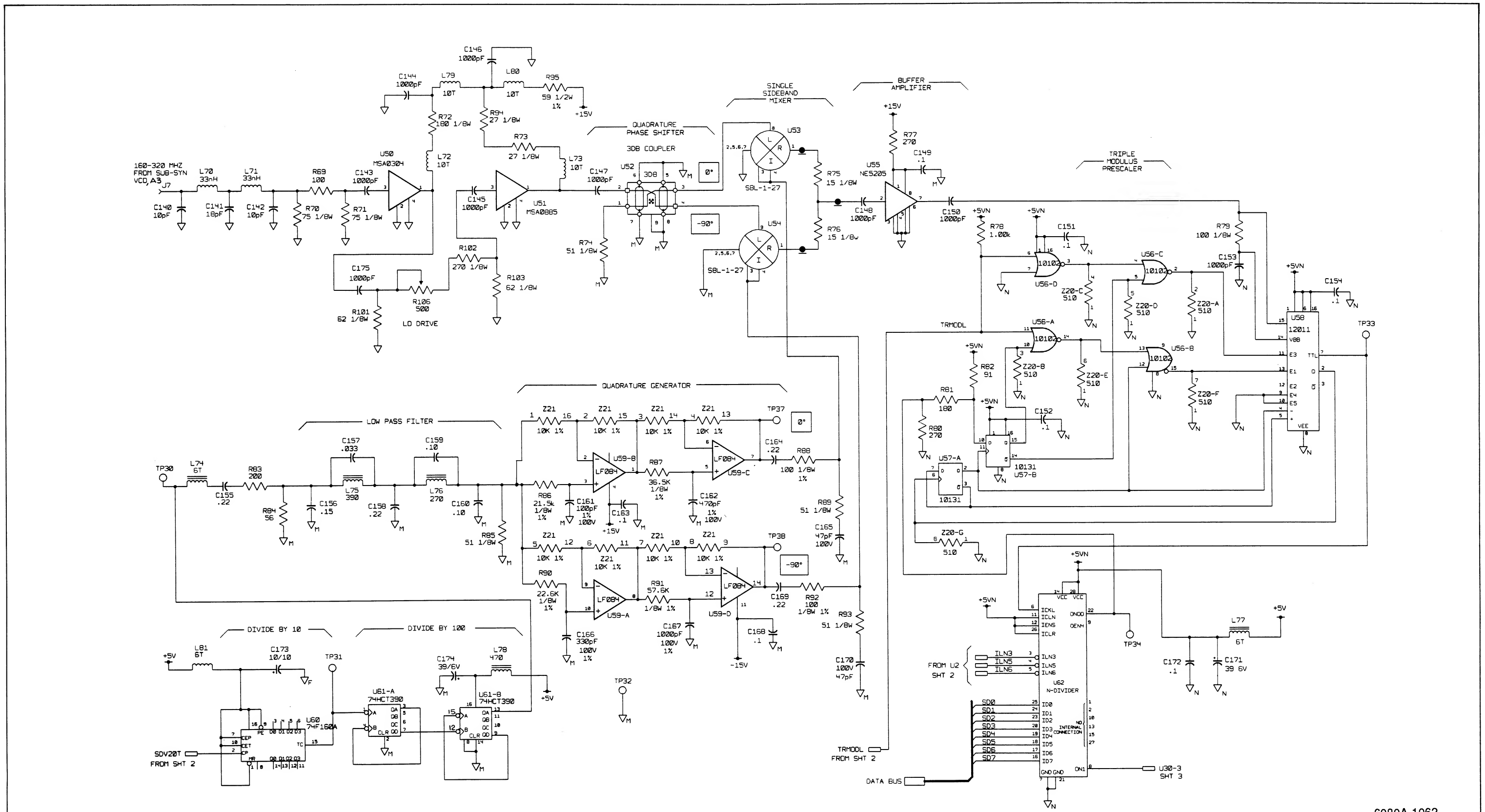


Figure 8-4. A4 Sub-Synthesizer PCA (cont)



6080A-1062
(3 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)



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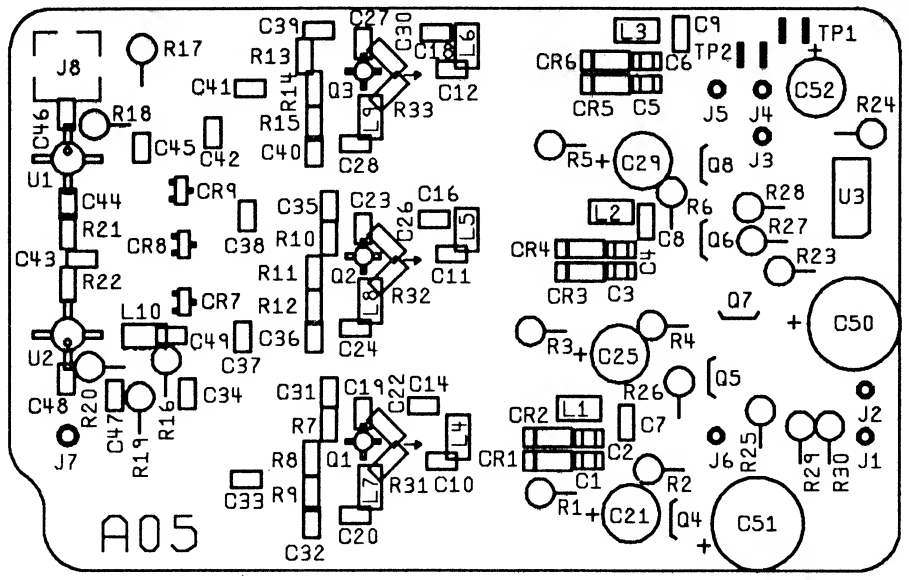
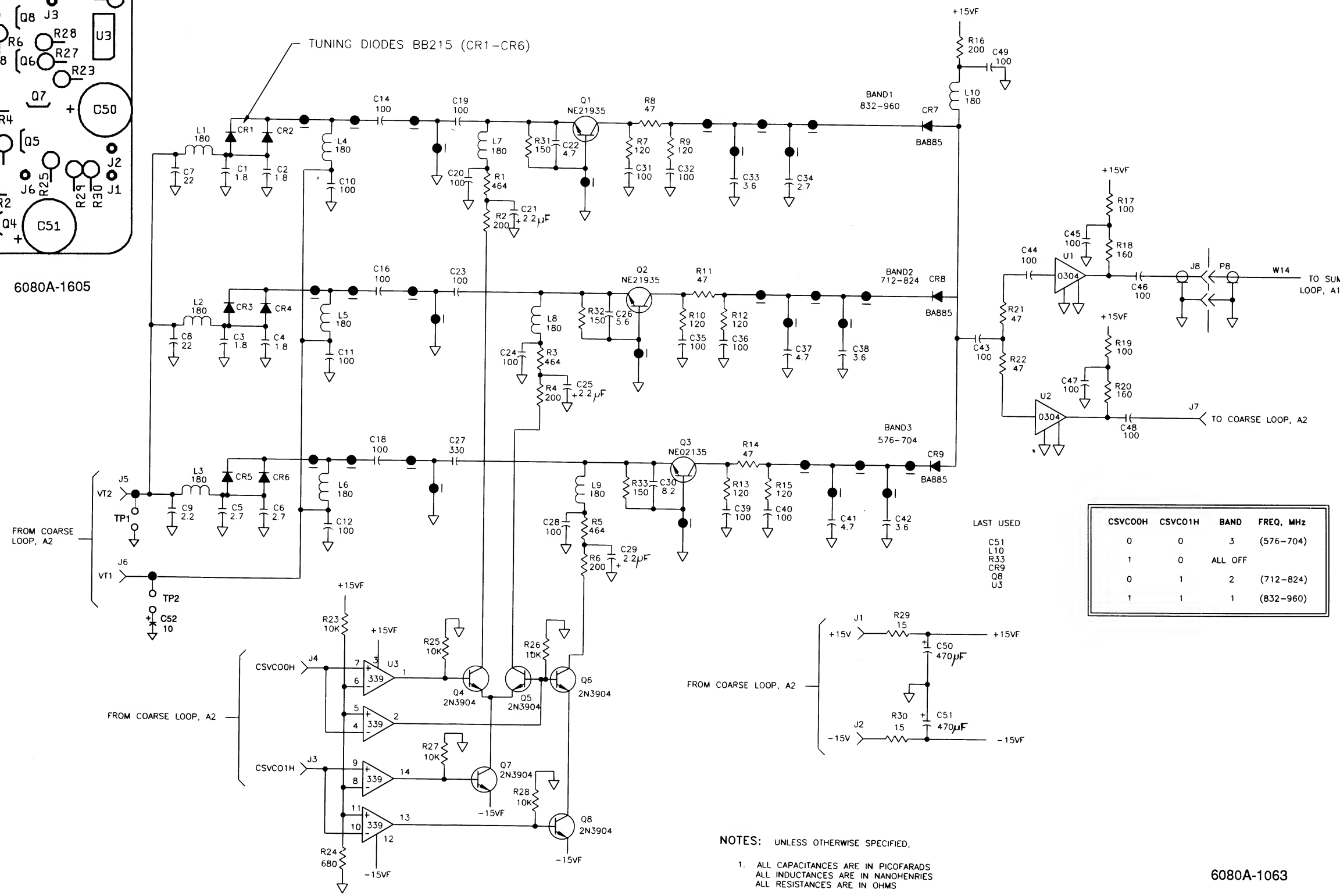
(4 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)



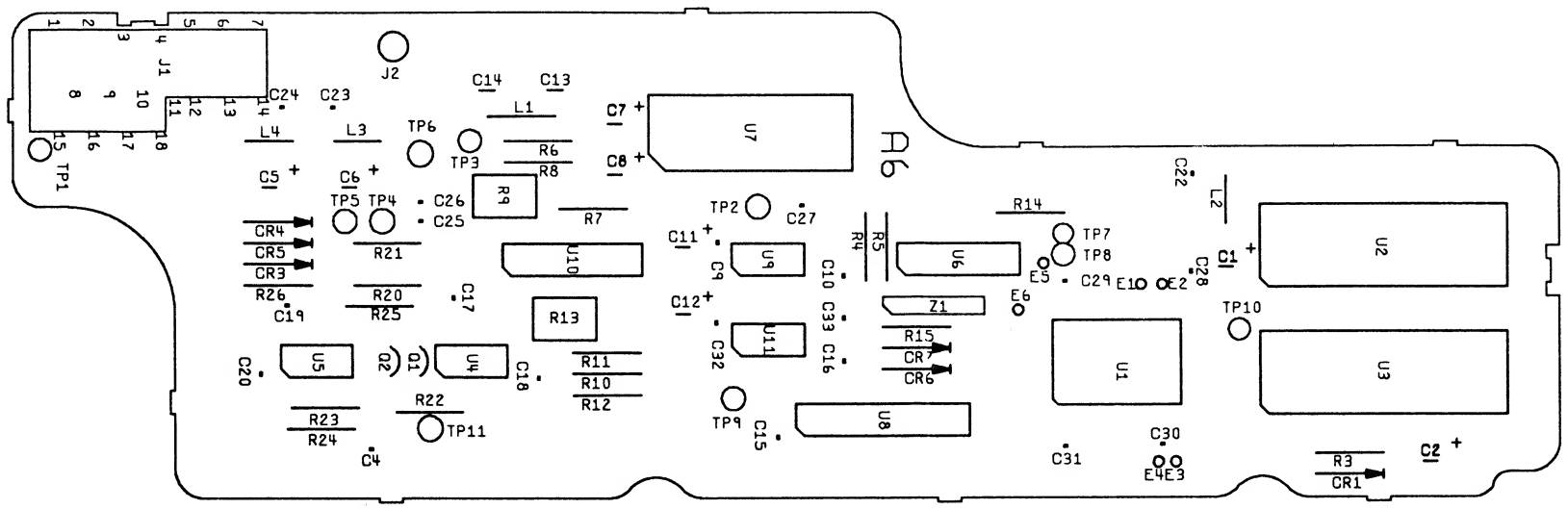
6080A-1605



CSVCO0H	CSVCO1H	BAND	FREQ, MHz
0	0	3	(576-704)
1	0	ALL OFF	
0	1	2	(712-824)
1	1	1	(832-960)

6080A-1063

Figure 8-5. A5 Coarse Loop VCO PCA



6080A-1602

REF.	Vcc	+15V	-15V	⏚	⏚	#PINS	TYPE
U1	2, 23, 37, 42, 63			3, 22, 33, 43, 62		80	65022 ARRAY
U2	1, 28			14		28	27256
U3	1, 28			14		28	27256
U4		7	4			8	LM6361
U5		7	4			8	LM6361
U6		3	12			14	LM339
U7		3	7	12	5	24	AD565A
U8		18		3	2	20	AD7548
U9		8	4			8	LF412A
U10		13	4		5	16	DG308
U11		8	4			8	LF412A

NOTE: (unless otherwise specified)

1) All capacitor values are in uF.

2) All resistor values are in Ohms.

Waveform selection table:

PB<6>	PB<5>	PB<4>	Waveform selected:
1	0	0	Sine wave
1	0	1	Triagular wave
1	1	0	square wave
1	1	1	gaussian noise
0	0	0	Sawtooth wave
0	0	1	4 step Staircase
0	1	0	option wave
0	1	1	option wave

PB <7>	PC <7>	MODE <1>	MODE <0>	S1	S2 S6	S3	S4	S5	Operation:
0	0	0	0	of	on	of	on	on	pulse generation
1	1	0	1	on	of	on	of	of	MOD OUT and INT MOD are on
1	1	1	0	on	of	on	of	of	MOD OUT and INT MOD are FULL scale
1	1	1	1	on	of	on	of	of	MOD OUT and INT MOD are ZERO scale
0	1	0	1	of	on	on	of	of	MOD OUT is on
1	0	0	1	on	of	of	on	of	INT MOD is on
0	1	1	0	of	on	on	of	of	MOD OUT is on

Sn- refers to switches on the PWB.

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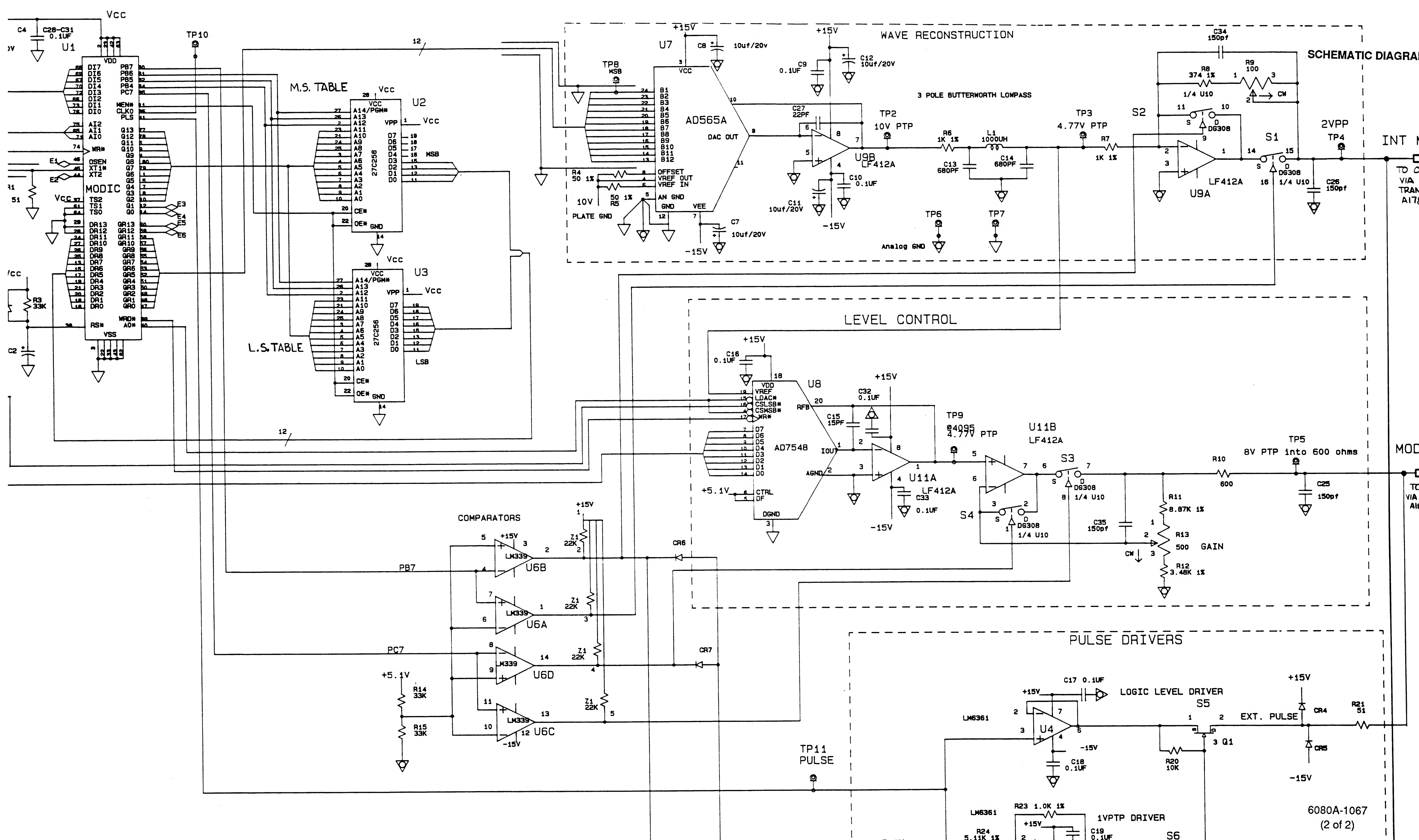
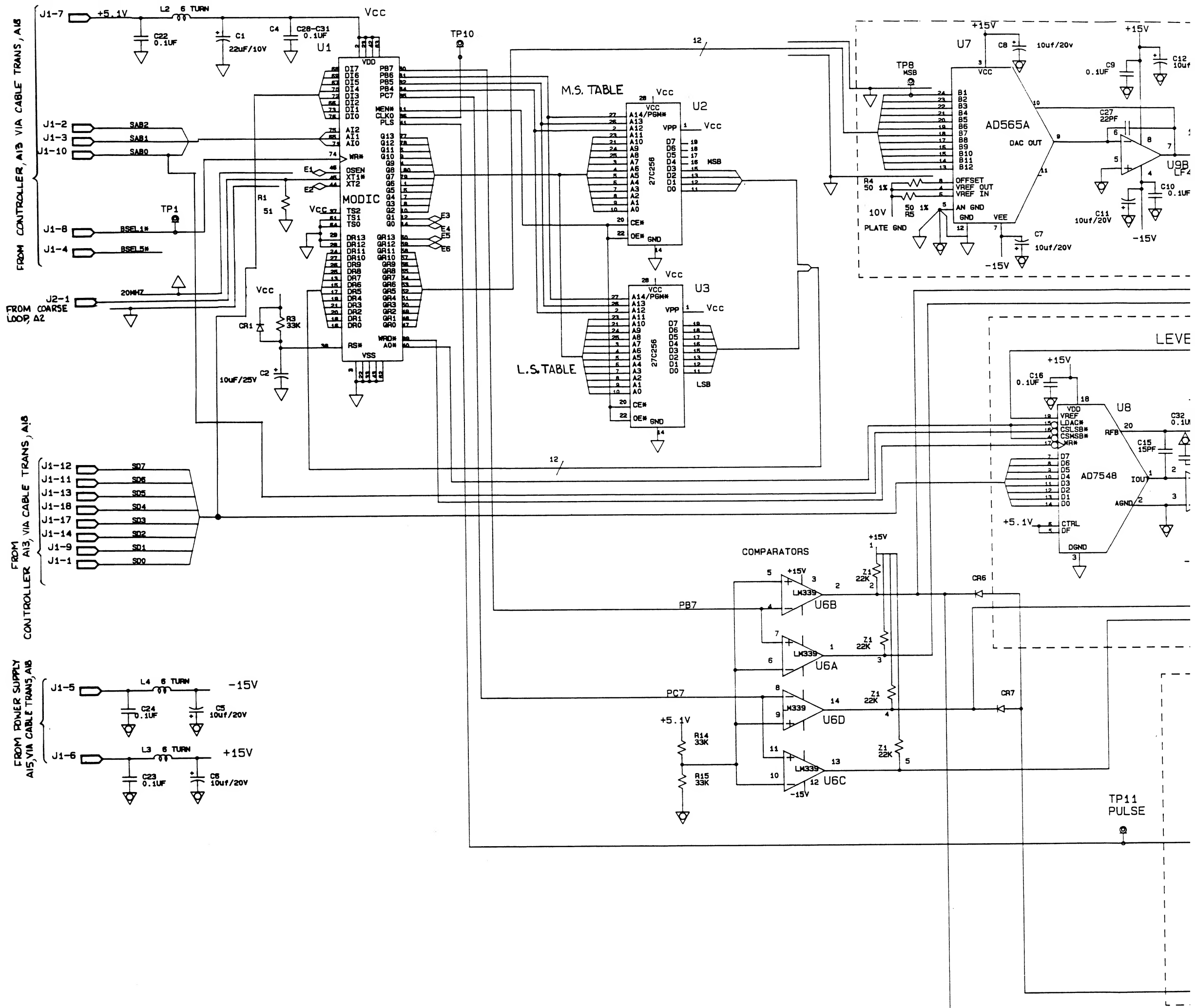
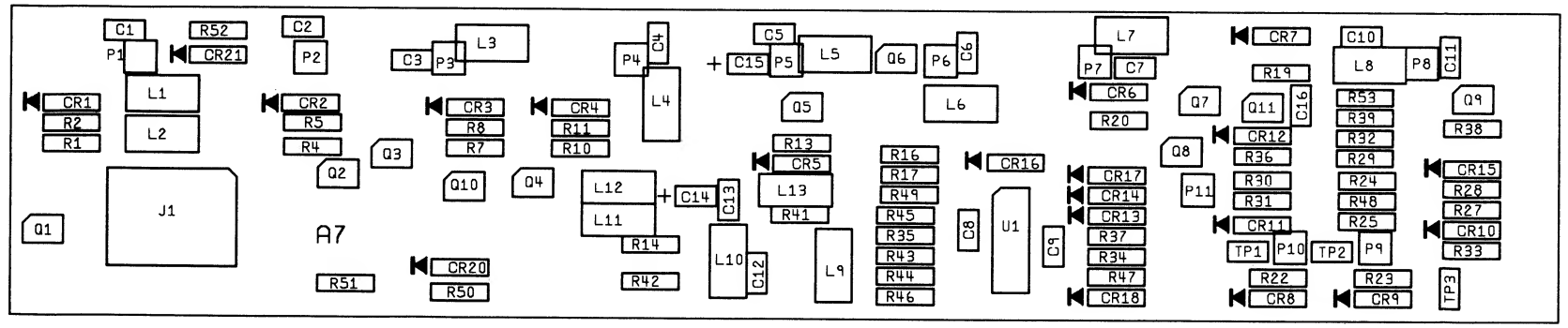
(1 of 2)

Figure 8-6. A6 Mod Oscillator PCA

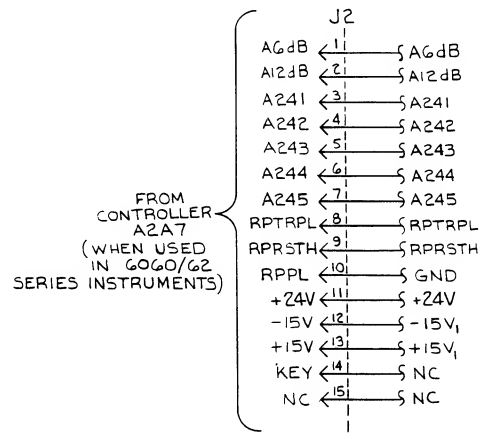


SCHEMATIC DIAGRAM
MODIC
U1
M.S. TABLE
U2
27C256
L.S. TABLE
U3
TP10
WAVE RECONSTRUCTION
U7
AD565A
3 POLE BUTTERWORTH LOWPASS
U9B
LF412A
TP2
10V PTP
TP3
4.77V PTP
S2
S1
2VPP
TP4
U9A
TP6
TP7
Analog GND
PLATE GND
LEVEL CONTROL
U8
AD7548
TP9
U11A
U11B
S3
S4
GAIN
TP5
8V PTP into 600 ohms
COMPARATORS
U6A
U6B
U6C
U6D
LM339
PB7
PC7
TP11
PULSE
PULSE DRIVERS
LOGIC LEVEL DRIVER
S5
EXT. PULSE
U4
LM6361
1VPTP DRIVER
S6
6080A-1067
(2 of 2)


FROM CONTROLLER, A13 VIA CABLE TRANS, A18
J1-7
+5.1V
L2 6 TURN
C22 0.1UF
C1 22uF/10V
C4
C28-C31 0.1UF
Vcc
U1
TP10
J1-2
SAB2
J1-3
SAB1
J1-10
SAB0
J1-8
BSEL1#
J1-4
BSEL5#
TP1
J2-1
20MHZ
FROM COARSE LOOP, A2
R1 51
E1
E2
MODIC
E3
E4
E5
E6
CR1
R3 33K
C2 10uF/25V
M.S. TABLE
U2
L.S.TABLE
U3
27C256
MSB
LSB
12
LEVE
U7
AD565A
TP8
MSB
C8 10uf/20v
C9 0.1UF
C12 10uf
C27 22PF
DAC OUT
U9B
LF4
C10 0.1UF
C11 10uf/20V
C7 10uf/20V
R4 50 1%
R5 50 1%
10V
PLATE GND
OFFSET
VREF OUT
VREF IN
AN GND
GND
VEE
-15V
+15V
U8
AD7548
C16 0.1UF
C32 0.1UF
C15 15PF
RFB
IOUT
AGND
CTRL
DF
DGND
FROM CONTROLLER A13, VIA CABLE TRANS, A18
J1-12
SD7
J1-11
SD6
J1-13
SD5
J1-18
SD4
J1-17
SD3
J1-14
SD2
J1-9
SD1
J1-1
SD0
COMPARATORS
LM339
U6B
U6A
U6D
U6C
PB7
PC7
R14 33K
R15 33K
Z1 22K
CR6
CR7
TP11
PULSE
FROM POWER SUPPLY A15, VIA CABLE TRANS, A18
J1-5
L4 6 TURN
-15V
C24 0.1UF
C5 10uf/20V
J1-6
L3 6 TURN
+15V
C23 0.1UF
C6 10uf/20V



6080A-1604



TO A21 ATTENUATOR/ RPP

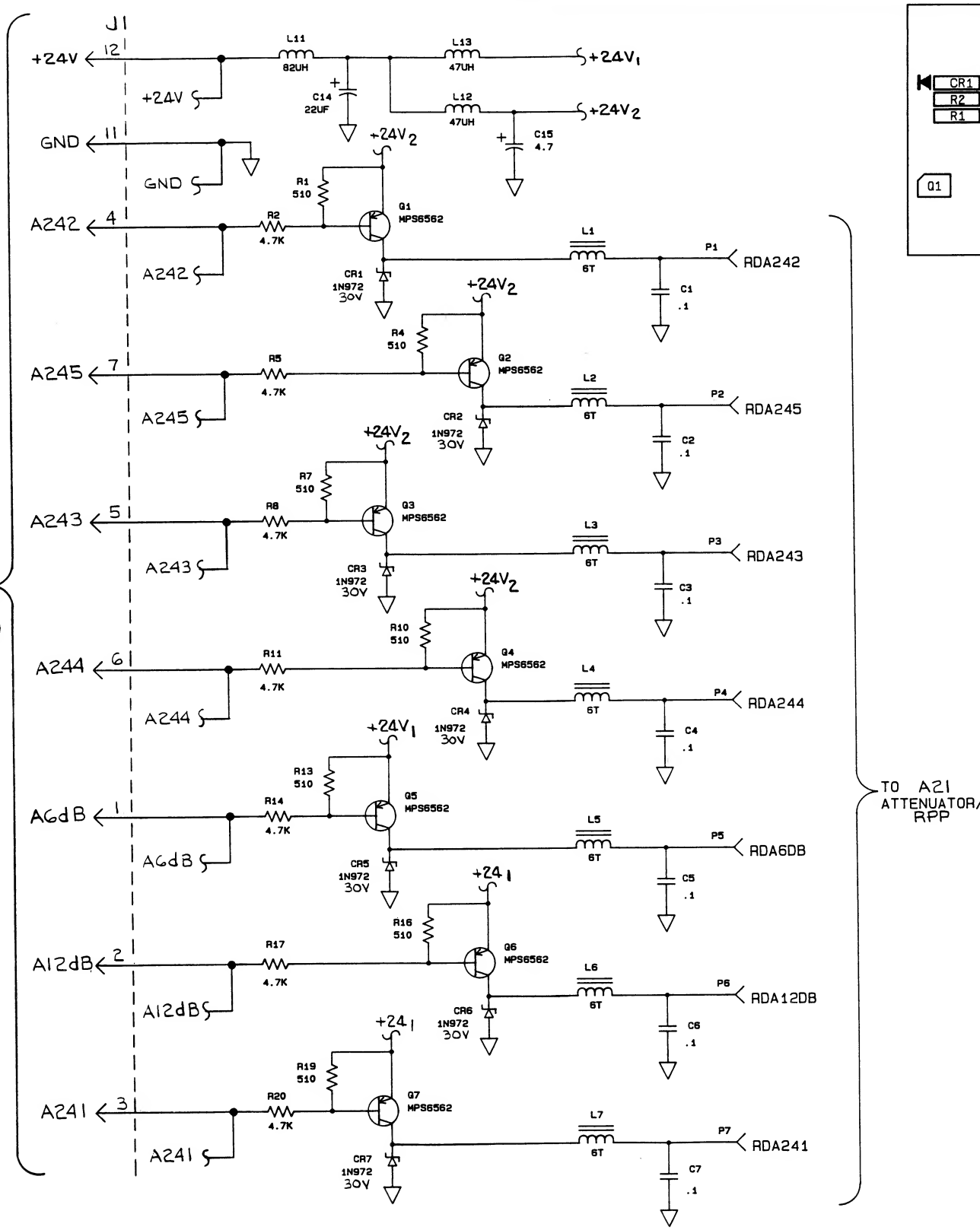
REFERENCE DESIGNATIONS	
LAST USED	NOT USED
U1	
Q11	
L13	
C16	
CR21	
R53	R26
TP3	
J1	
P11	

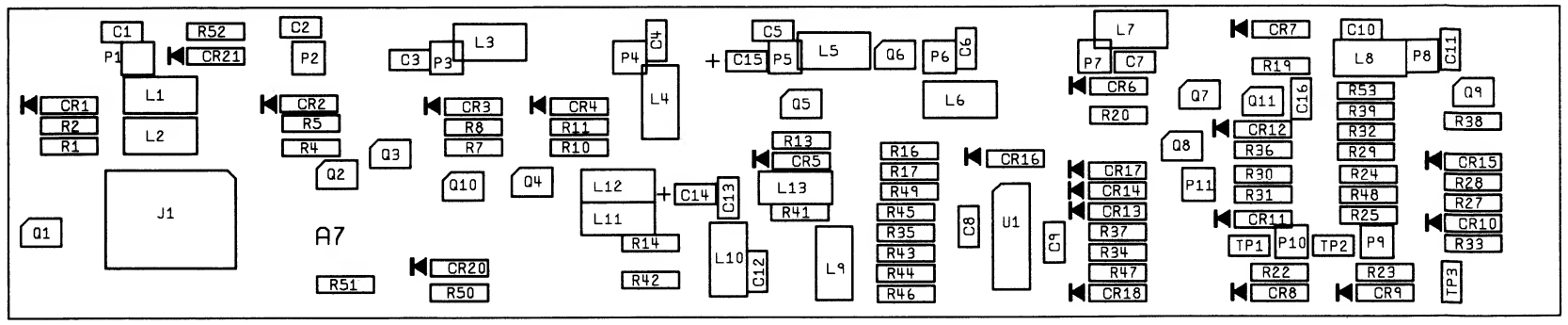
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4W, 5%.
   ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.

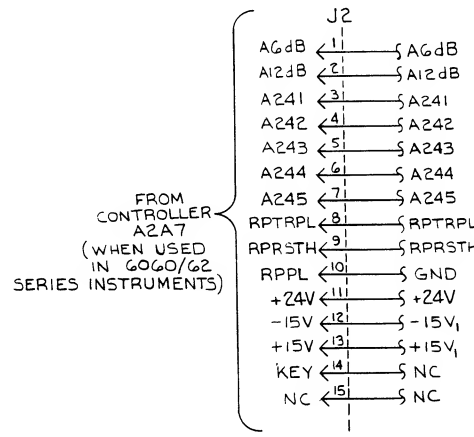
6080A-1032
(1 of 2)

Figure 8-7. A7 Relay Driver PCA





6080A-1604

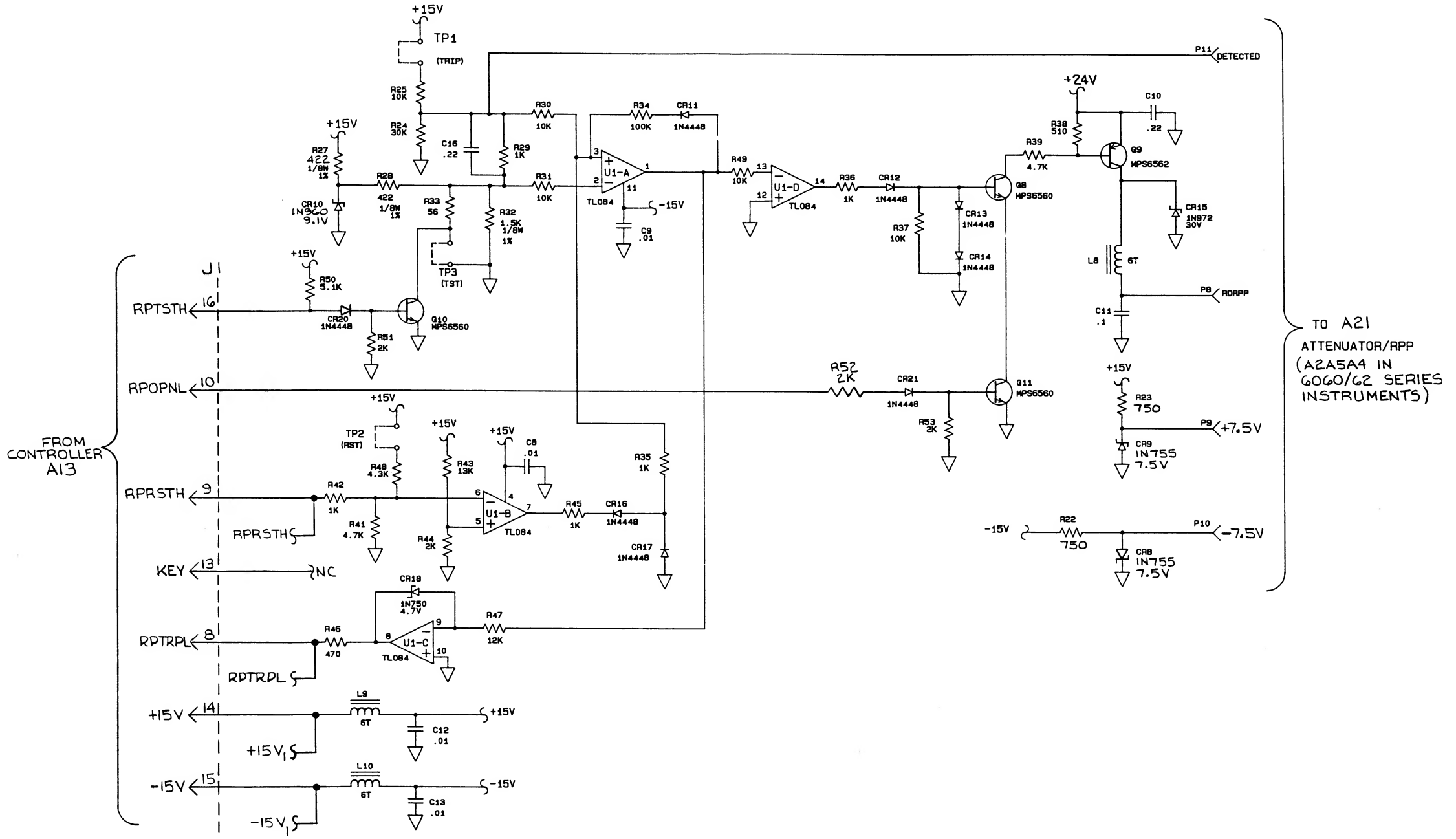


REFERENCE DESIGNATIONS	
LAST USED	NOT USED
U1	
Q11	
L13	
C16	
CR21	
R53	R26
TP3	
J1	
P11	

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4W, 5%. ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.

6080A-1032
(1 of 2)



6080A-1032
(2 of 2)

Figure 8-7. A7 Relay Driver PCA (cont)

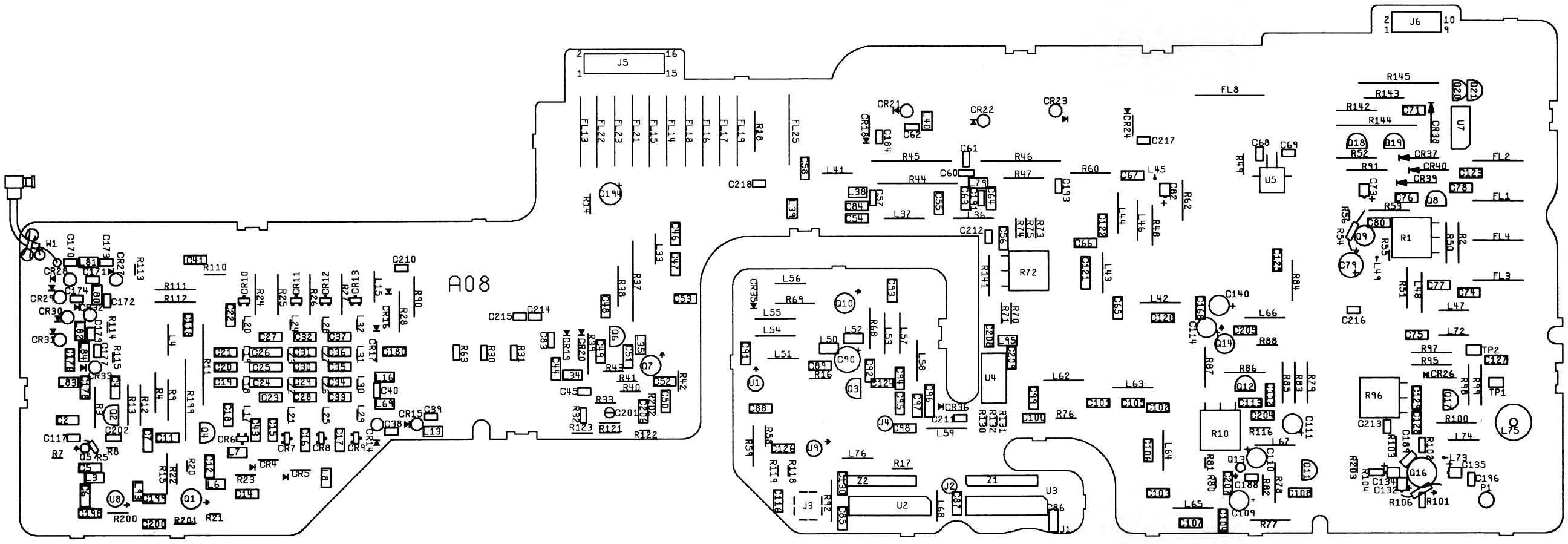
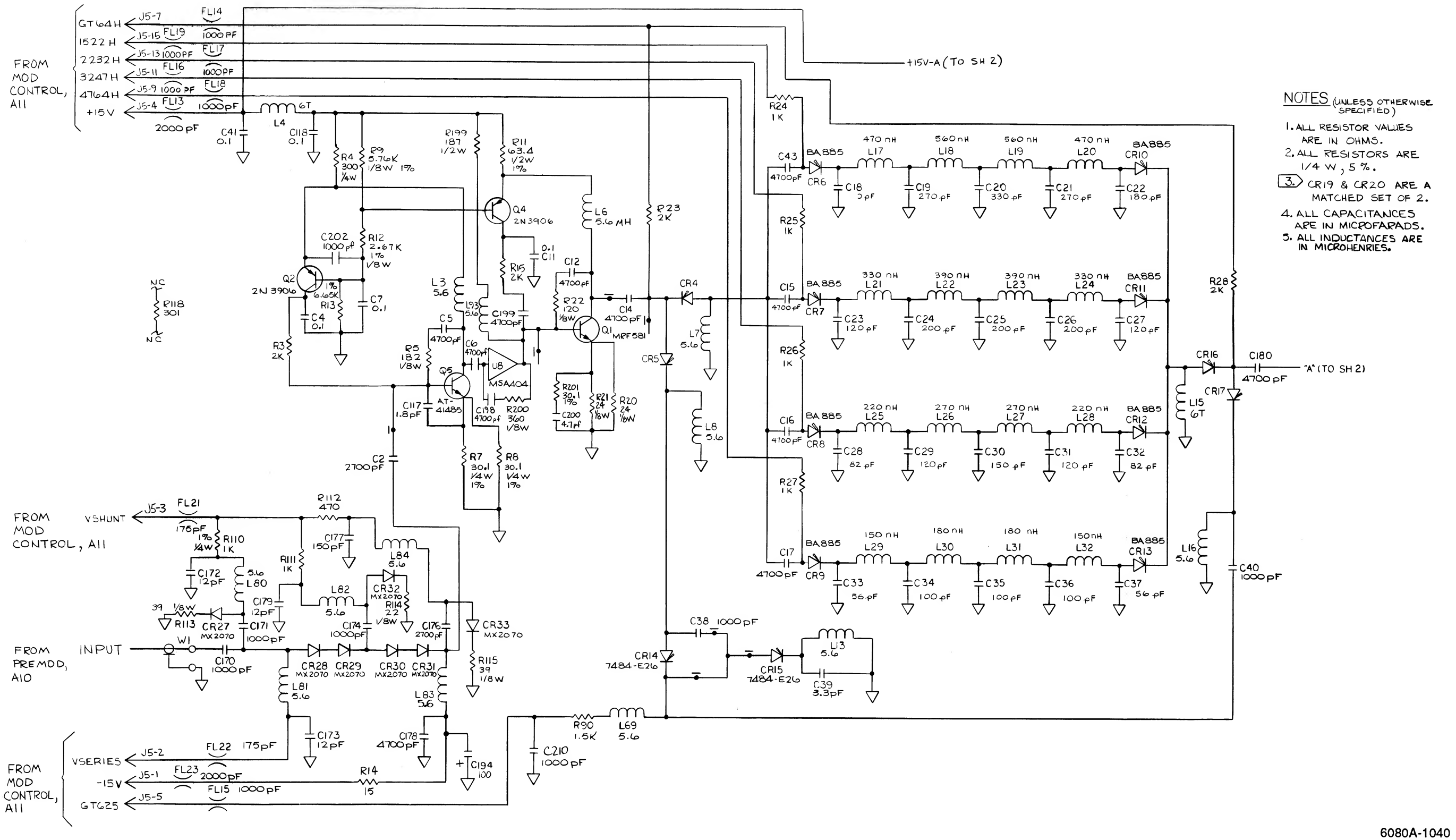
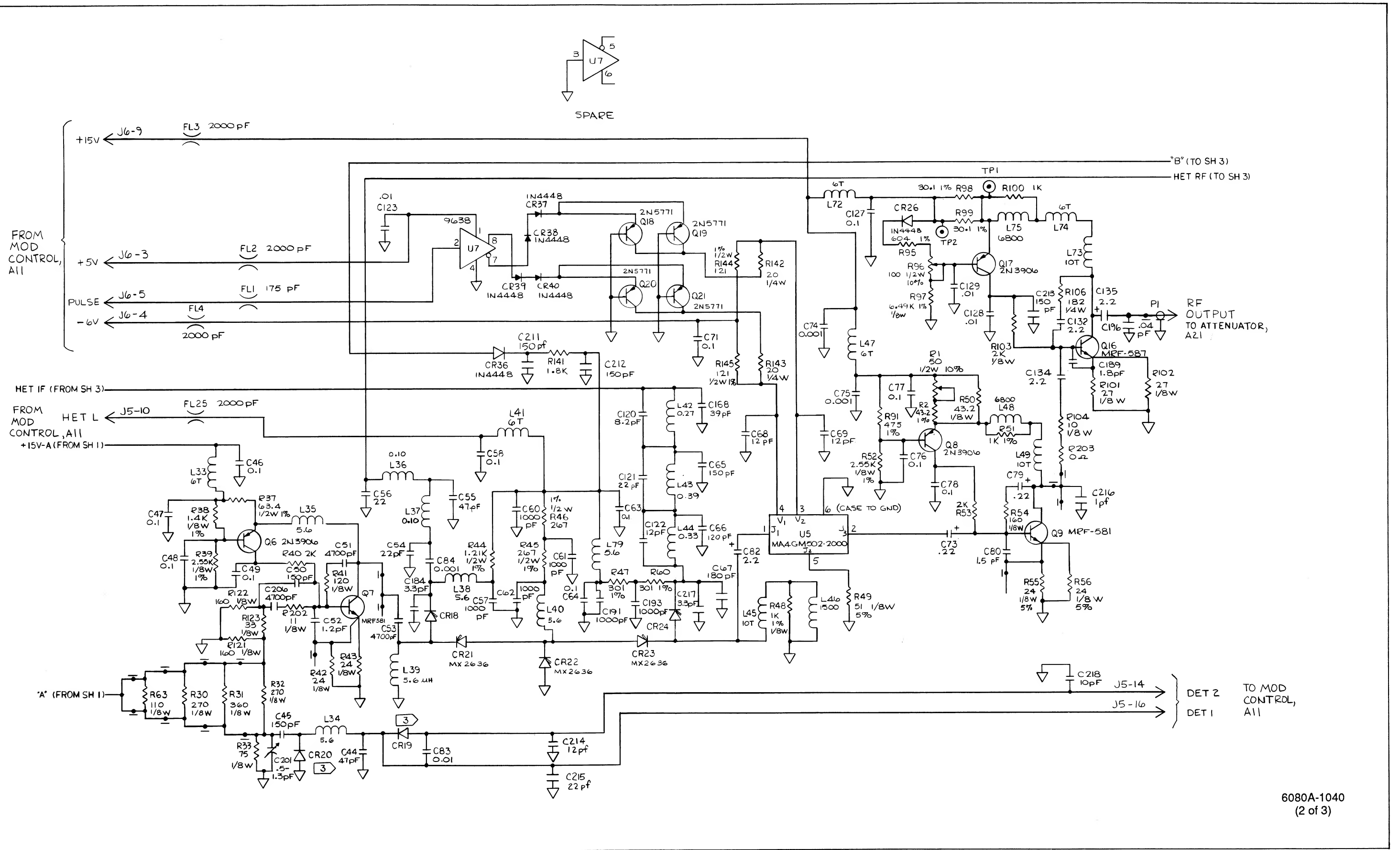


Figure 8-8. A8 Output PCA



6080A-1040
(1 of 3)

Figure 8-8. A8 Output PCA (cont)



6080A-1040
(2 of 3)

Figure 8-8. A8 Output PCA (cont)

Figure 8-9. A9 Sum Loop VCO PCA (cont)

6080A-1041

SCHEMATIC DIAGRAMS

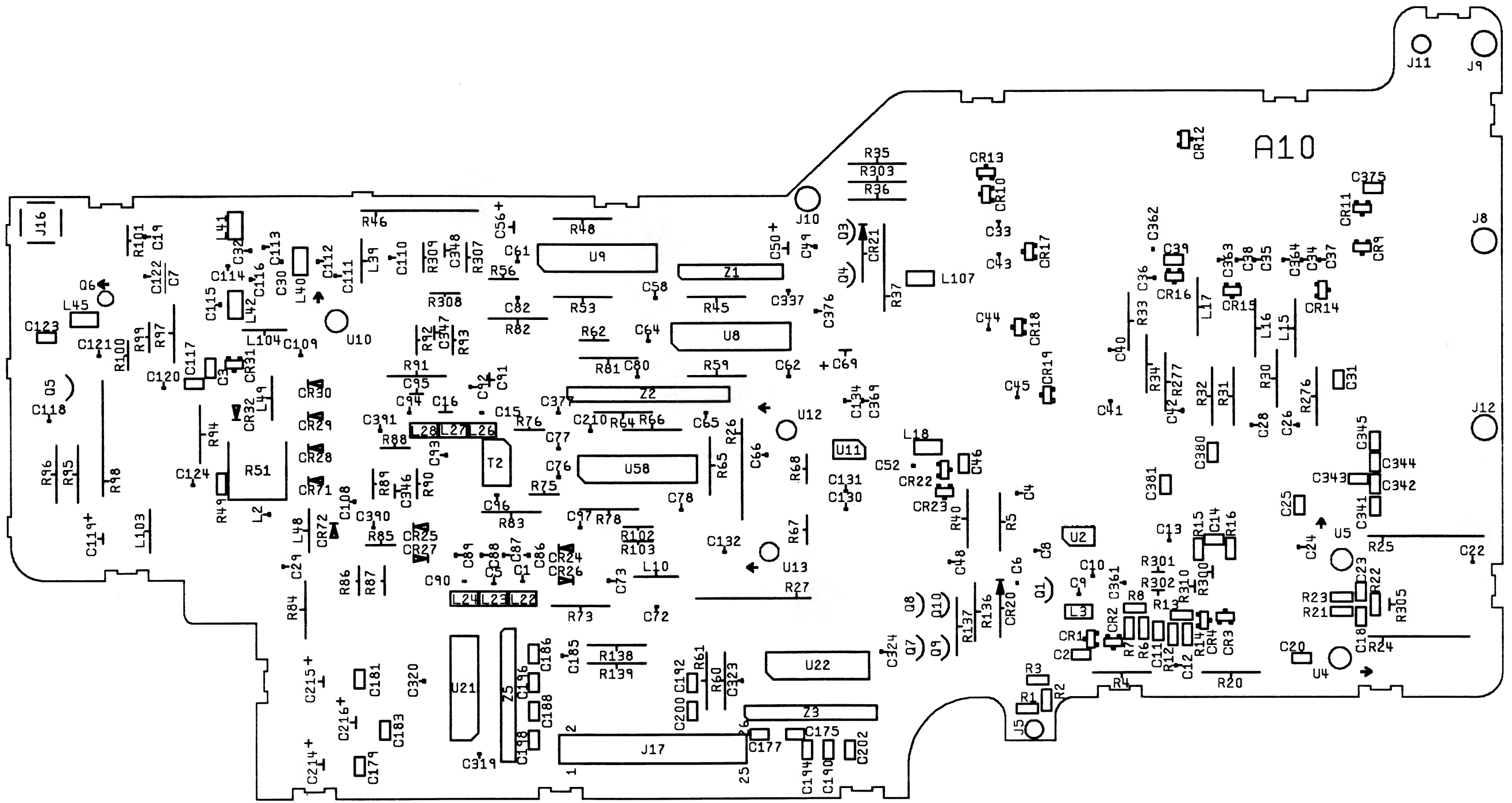
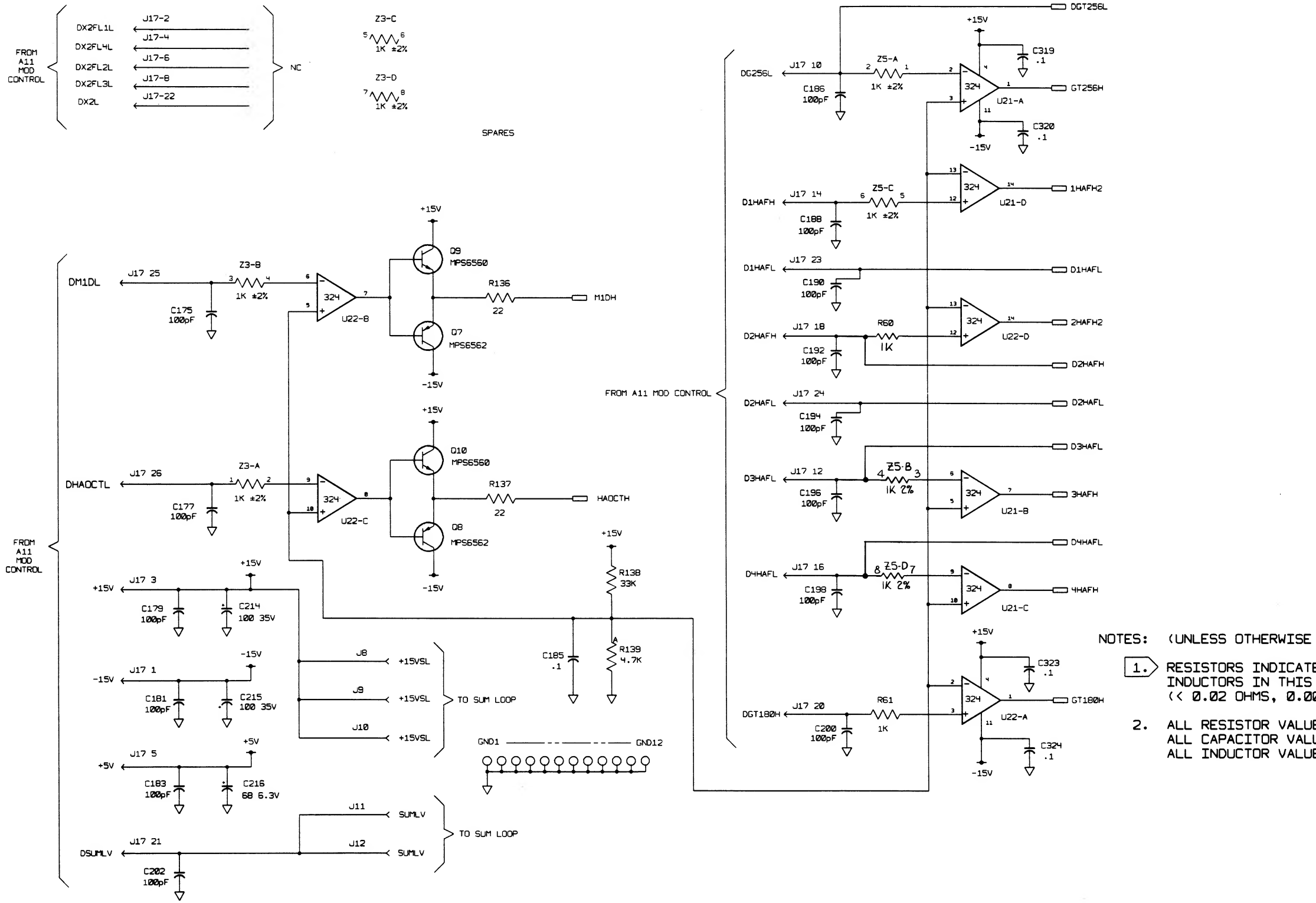


Figure 8-10. A10 Premodulator PCA



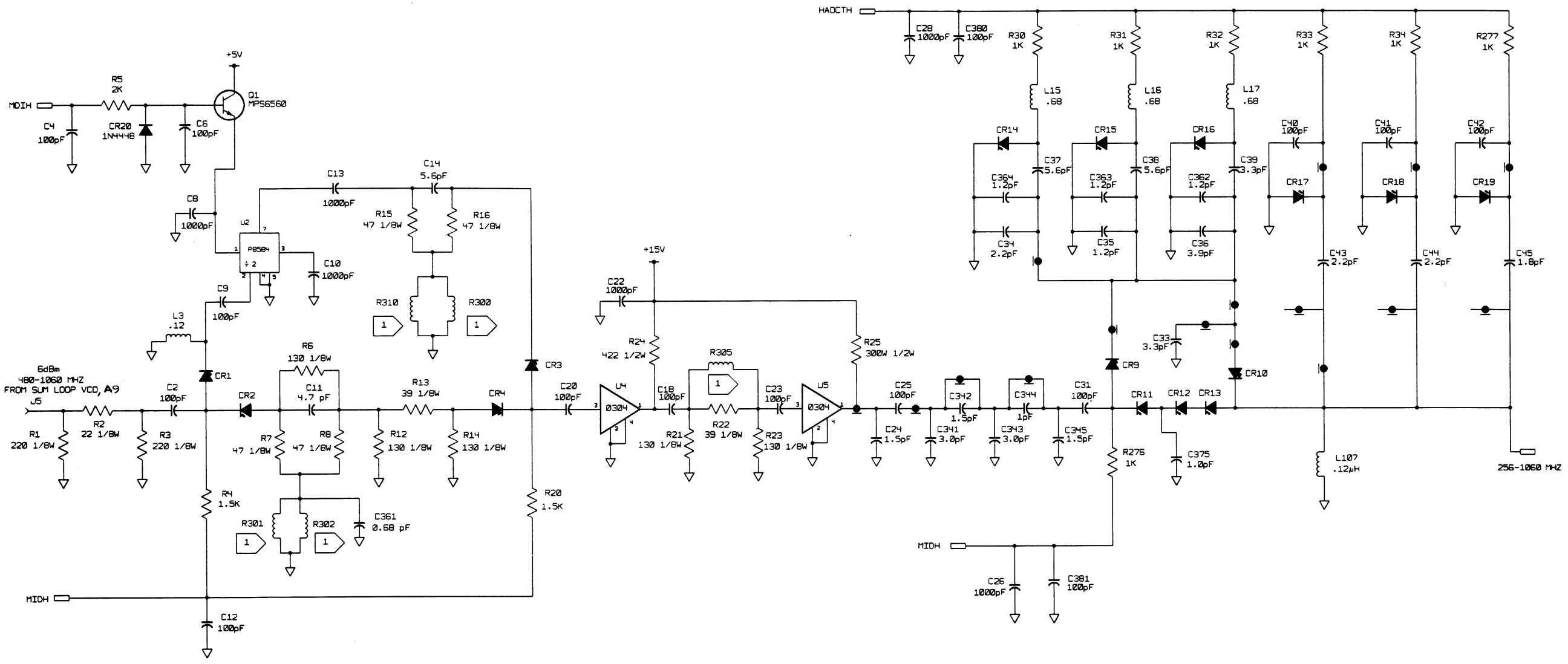
NOTES: (UNLESS OTHERWISE SPECIFIED.

1. RESISTORS INDICATED FUNCTION AS INDUCTORS IN THIS CIRCUIT. (< 0.02 OHMS, 0.000W)

2. ALL RESISTOR VALUES ARE IN OHMS. ALL CAPACITOR VALUES ARE IN µF's. ALL INDUCTOR VALUES ARE IN µH's.

6080A-1046
(1 of 3)

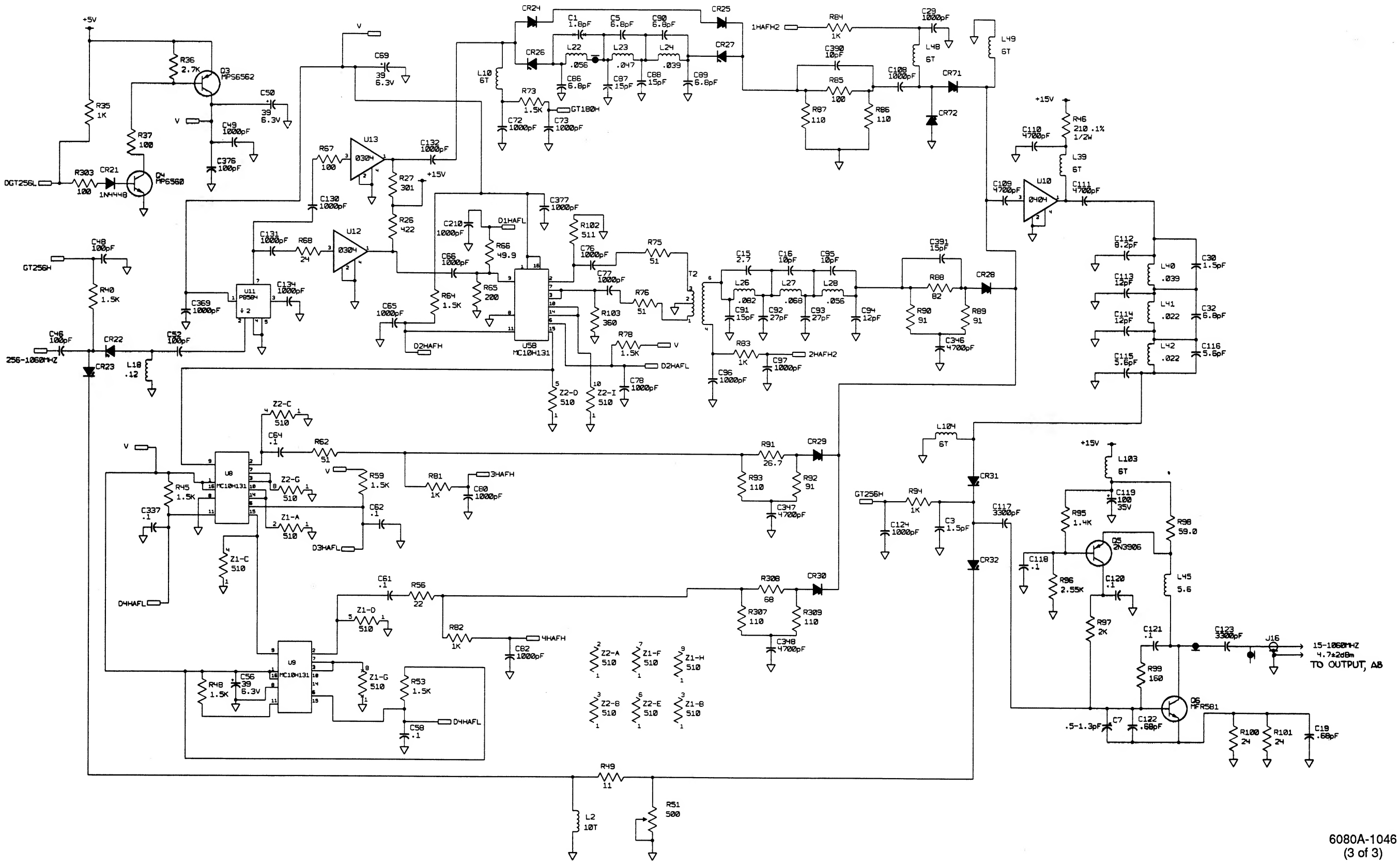
Figure 8-10. A10 Premodulator PCA (cont)



FREQ	.01 - 258-	256+ - 350-	350+ - 512-	512+ - 730-	730+ - 1056
MIDTH	+12V	+12V	+12V	-13V	-13V
HADCTH	-13V	+12V	-13V	-13V	+12V

6080A-1046
(2 of 3)

Figure 8-10. A10 Premodulator PCA (cont)



6080A-1046
(3 of 3)

Figure 8-10. A10 Premodulator PCA (cont)

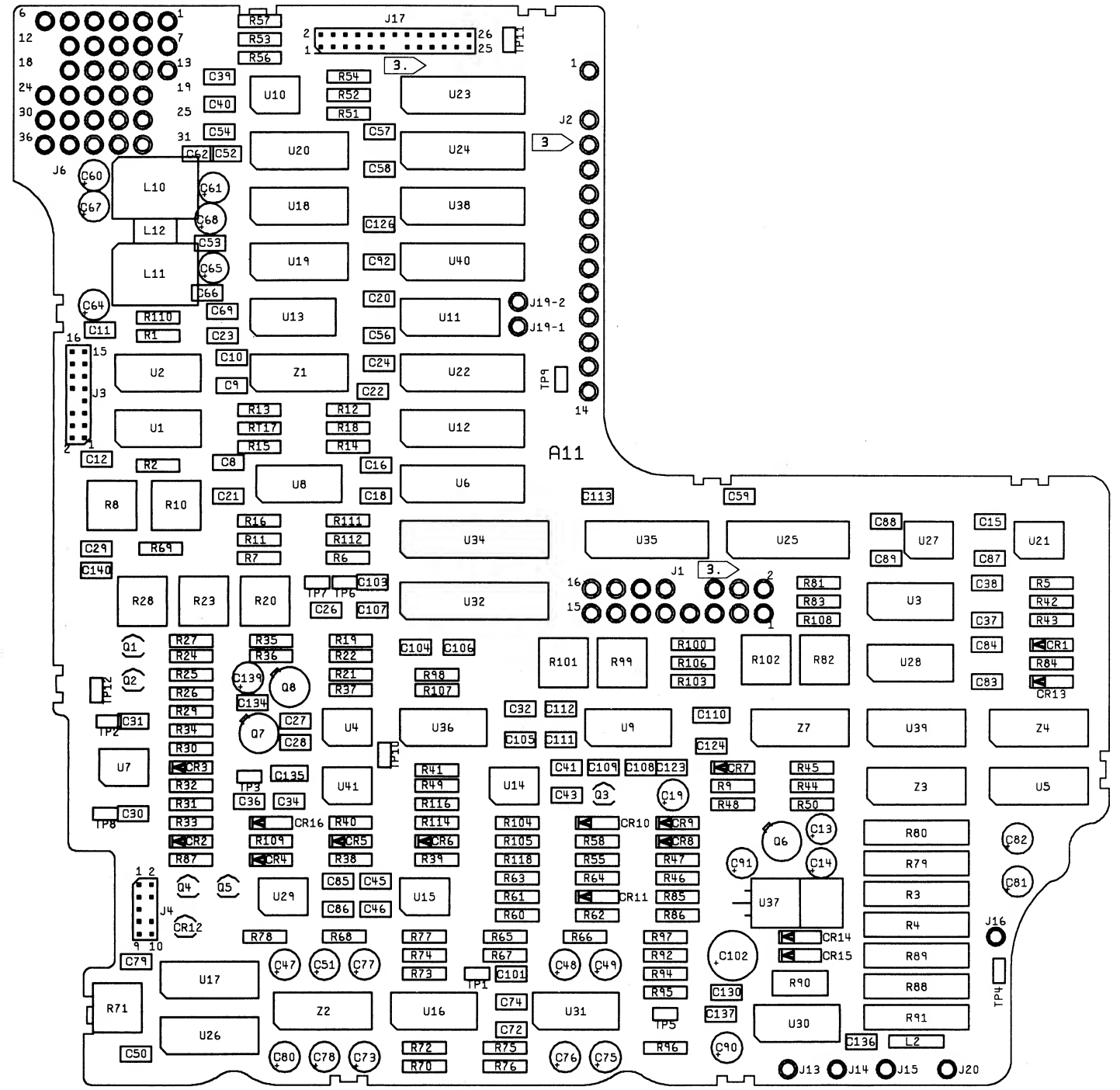
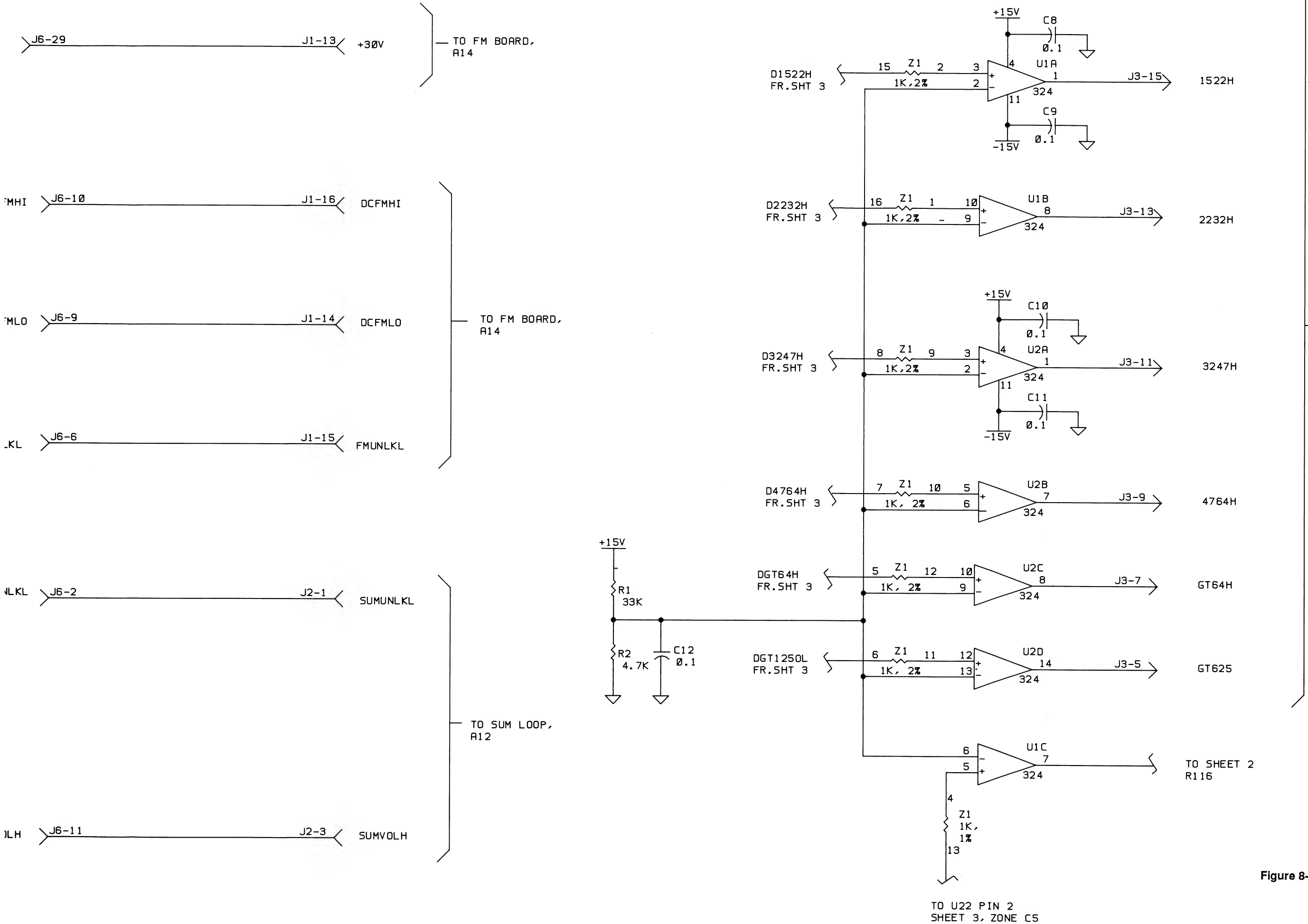


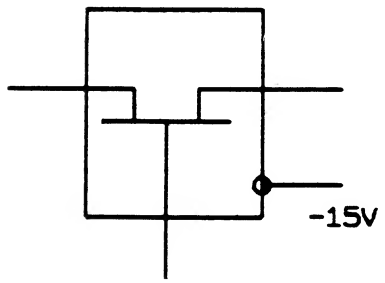
Figure 8-11. A11 Modulation Control PCA



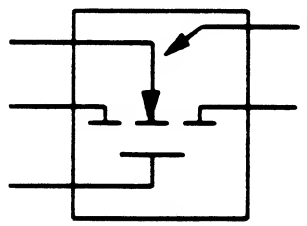
6080A-1048
(1 of 5)

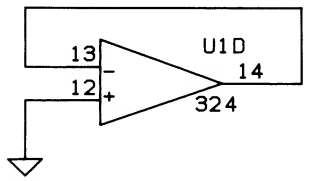
Figure 8-11. A11 Modulation Control PCA (cont)

NOTE:
SD5002'S WHICH
ARE SHOWN AS:



ARE ACTUALLY
CONSTRUCTED:





SPARE AMP

FROM CONTROLLER, A13 — +30V — J6-29 — J1-13 — +30V — TO FM BOARD, A14

TO CONTROLLER, A13

DCFMHI	J6-10	J1-16	DCFMHI	TO FM BOARD, A14
DCFMLO	J6-9	J1-14	DCFMLO	
FMUNLKL	J6-6	J1-15	FMUNLKL	

TO CONTROLLER, A13

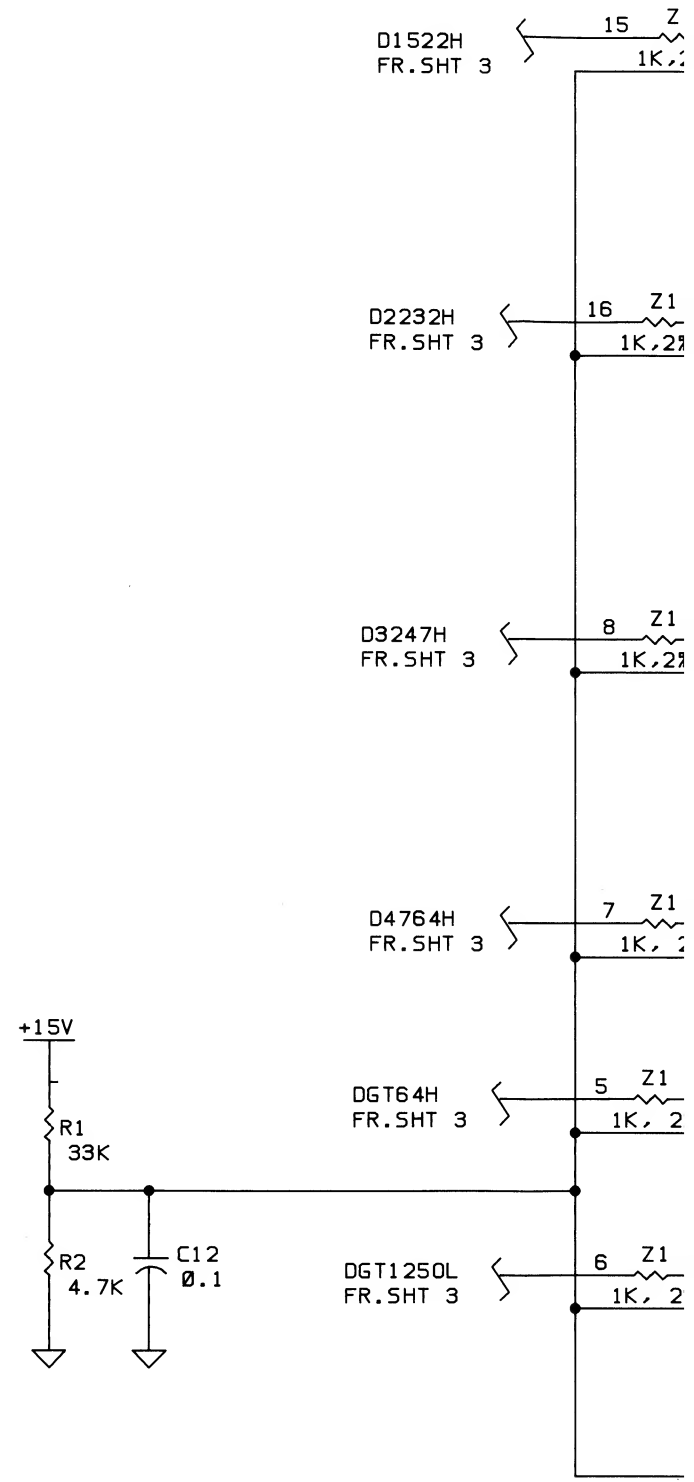
SUMUNLKL	J6-2	J2-1	SUMUNLKL	TO SUM LOOP, A12
SUMVOLH	J6-11	J2-3	SUMVOLH	

LAST USED:

C140, CR16, L12, Q8, R118, TP12, U41, Z7

NOT USED:

C1-C7, C17, C25, C33, C35, C42, C44, C55, C63, C70-C71, C93-C100, C114, C122, C125, C127-C129, C131-C133, C138, L1, L3-L9, R59, R113, R115, R117, U33, Z5-Z6



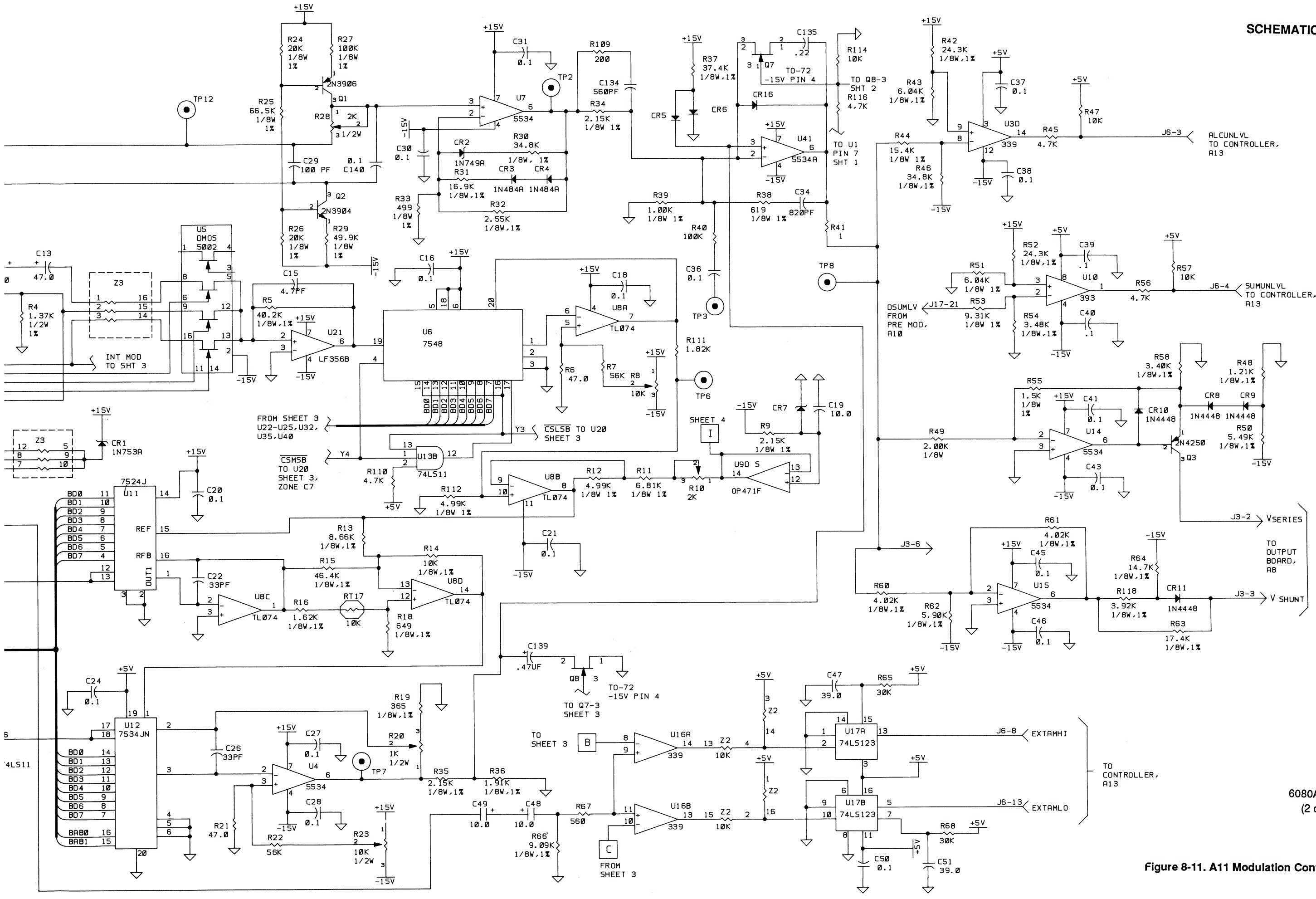


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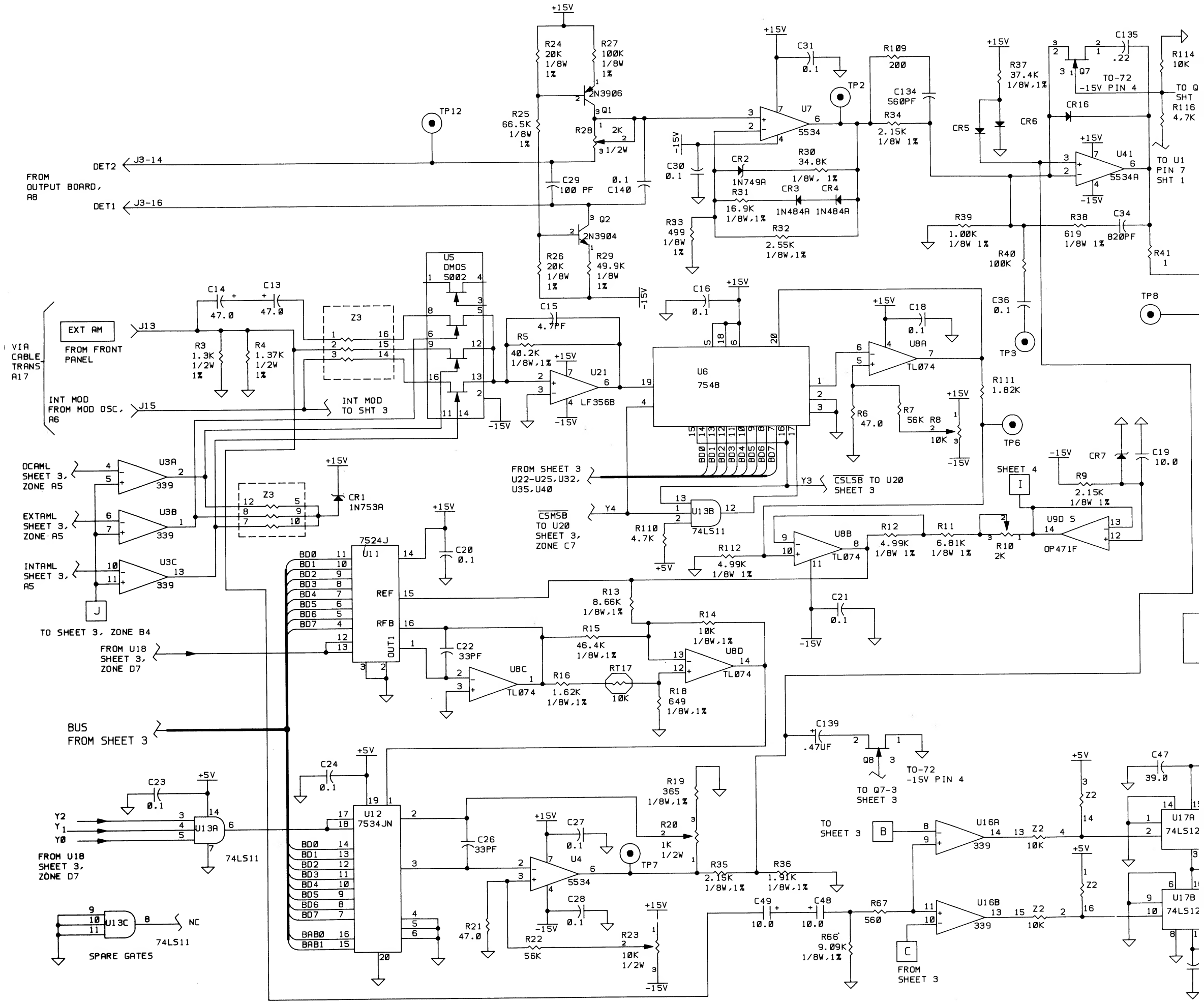
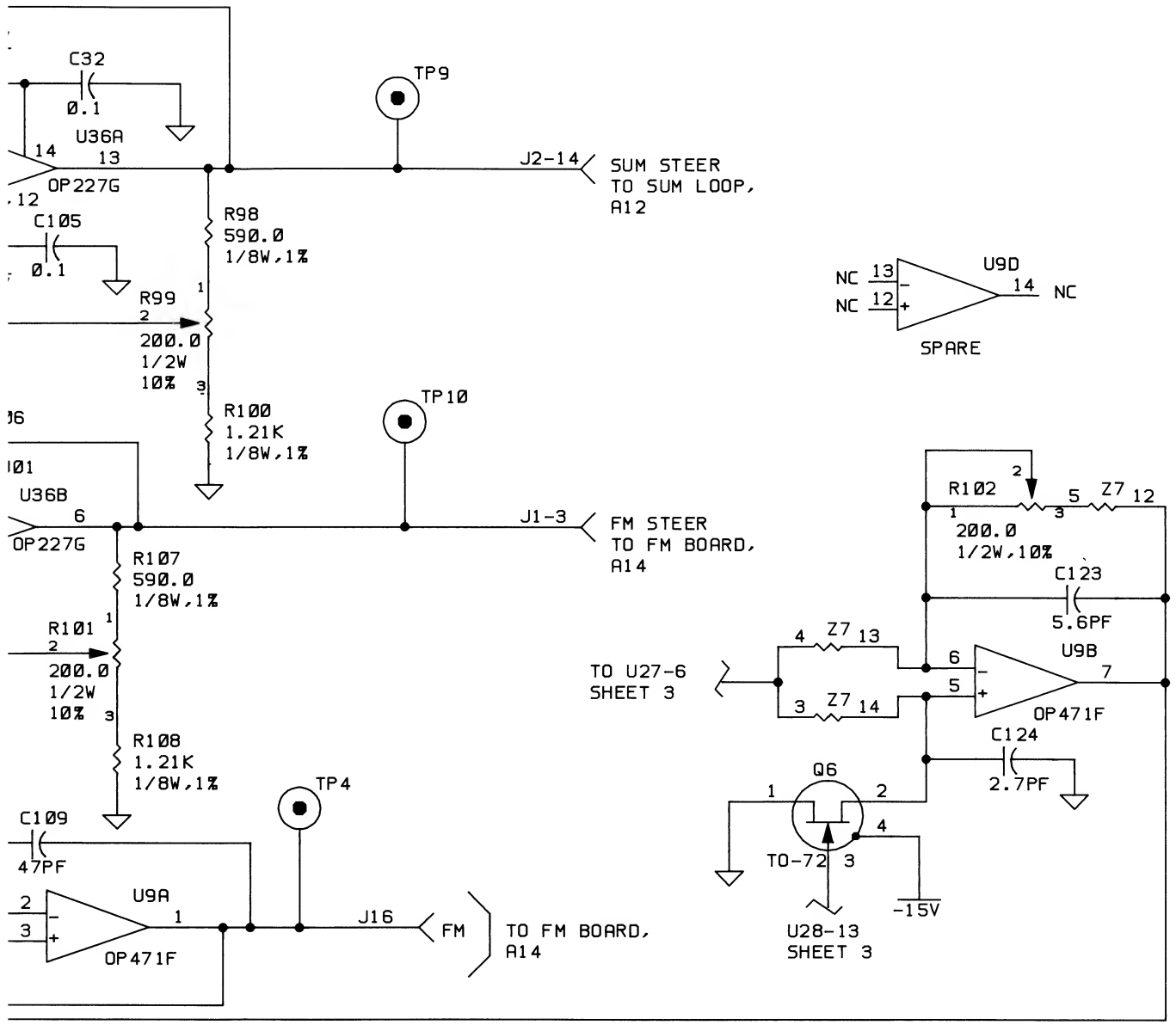
Figure 8-11. A11 Modulation Control PCA (cont)


+15V
R24 20K 1/8W 1%
R27 100K 1/8W 1%
2N3906
Q1
R25 66.5K 1/8W 1%
R28 2K 1/2W
TP12
DET2
J3-14
FROM OUTPUT BOARD, A8
DET1
J3-16
C29 100 PF
0.1 C140
Q2
2N3904
R26 20K 1/8W 1%
R29 49.9K 1/8W 1%
-15V
C31 0.1
R109 200
TP2
U7 5534
C134 560PF
R34 2.15K 1/8W 1%
C30 0.1
CR2 1N749A
R30 34.8K 1/8W, 1%
CR3 CR4 1N484A 1N484A
R31 16.9K 1/8W,1%
R33 499 1/8W 1%
R32 2.55K 1/8W,1%
R37 37.4K 1/8W,1%
C135 .22
Q7 TO-72 -15V PIN 4
R114 10K
TO Q SHT R116 4,7K
CR16
CR5
CR6
U41 5534A
TO U1 PIN 7 SHT 1
R39 1.00K 1/8W 1%
R38 619 1/8W 1%
C34 820PF
R41 1
R40 100K
C36 0.1
TP3
TP8
U5 DMOS 5002
C14 47.0
C13 47.0
Z3
EXT AM
J13
FROM FRONT PANEL
VIA CABLE TRANS A17
R3 1.3K 1/2W 1%
R4 1.37K 1/2W 1%
INT MOD FROM MOD OSC, A6
J15
INT MOD TO SHT 3
C15 4.7PF
R5 40.2K 1/8W,1%
U21 LF356B
C16 0.1
U6 7548
C18 0.1
U8A TL074
R6 47.0
R7 56K R8 10K
R111 1.82K
TP6
SHEET 4
I
FROM SHEET 3 U22-U25,U32, U35,U40
Y3
CSLSB TO U20 SHEET 3
CSMSB TO U20 SHEET 3, ZONE C7
Y4
U13B 74LS11
R110 4.7K
R112 4.99K 1/8W 1%
U8B TL074
R12 4.99K 1/8W 1%
R11 6.81K 1/8W 1%
R10 2K
U9D S OP471F
CR7
C19 10.0
R9 2.15K 1/8W 1%
DCAML SHEET 3, ZONE A5
U3A 339
EXTAML SHEET 3, ZONE A5
U3B 339
INTAML SHEET 3, A5
U3C 339
J
TO SHEET 3, ZONE B4
CR1 1N753A
7524J U11
REF
RFB
OUT1
C20 0.1
C22 33PF
R13 8.66K 1/8W,1%
R14 10K 1/8W,1%
R15 46.4K 1/8W,1%
U8C TL074
R16 1.62K 1/8W,1%
RT17 10K
U8D TL074
R18 649 1/8W,1%
C21 0.1
FROM U18 SHEET 3, ZONE D7
BUS FROM SHEET 3
C24 0.1
C23 0.1
U13A 74LS11
Y2
Y1
Y0
FROM U18 SHEET 3, ZONE D7
U12 7534JN
C26 33PF
R19 365 1/8W,1%
R20 1K 1/2W
C27 0.1
U4 5534
TP7
R21 47.0
R22 56K
C28 0.1
R23 10K 1/2W
R35 2.15K 1/8W,1%
R36 1.91K 1/8W,1%
C139 .47UF
Q8 TO-72 -15V PIN 4
TO Q7-3 SHEET 3
TO SHEET 3
B
U16A 339
U16B 339
Z2 10K
C47 39.0
U17A 74LS12
U17B 74LS12
C49 10.0
C48 10.0
R67 560
R66 9.09K 1/8W,1%
C
FROM SHEET 3
U13C 74LS11
NC
SPARE GATES

C104
0.001
+15V
C32
0.1
U36A
OP227G
TP9
J2-14
SUM STEER
TO SUM LOOP,
A12
C103
0.1
C105
0.1
-15V
R98
590.0
1/8W,1%
R99
200.0
1/2W
10%
R100
1.21K
1/8W,1%
D
E
U32
AD7537
BAB1
U18-2
BAB0
U18-1
BSEL3L
U19-4
SHT 3
+5V
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
I
FROM SHT 2
C106
0.001
U36B
OP227G
TP10
J1-3
FM STEER
TO FM BOARD,
A14
R107
590.0
1/8W,1%
R101
200.0
1/2W
10%
R108
1.21K
1/8W,1%
H
TO SHEETS
2,3,4
C107
0.1
U34
AD7537
C108
330PF
C109
47PF
R103
560.0
U9A
OP471F
TP4
J16
FM
TO FM BOARD,
A14
R104
365.0
1/8W,1%
C110
0.001
C111
0.1
U9C
OP471F
TP11
R106
604
1/8W,1%
J6-24
SWEEP OUT
TO CONTROLLER,
A13
R105
634.0
1/8W,1%
C112
0.1
U9D
SPARE
NC
R102
200.0
1/2W,10%
C123
5.6PF
U9B
OP471F
TO U27-6
SHEET 3
Z7
C124
2.7PF
Q6
TO-72
U28-13
SHEET 3
TO SHEETS 2,3,4
H
C113
0.1
U35
74HCT273
G
SHEET 3,
ZONE B7
TO SHEETS
2,3,4
F
SHEET 3,
ZONE B7



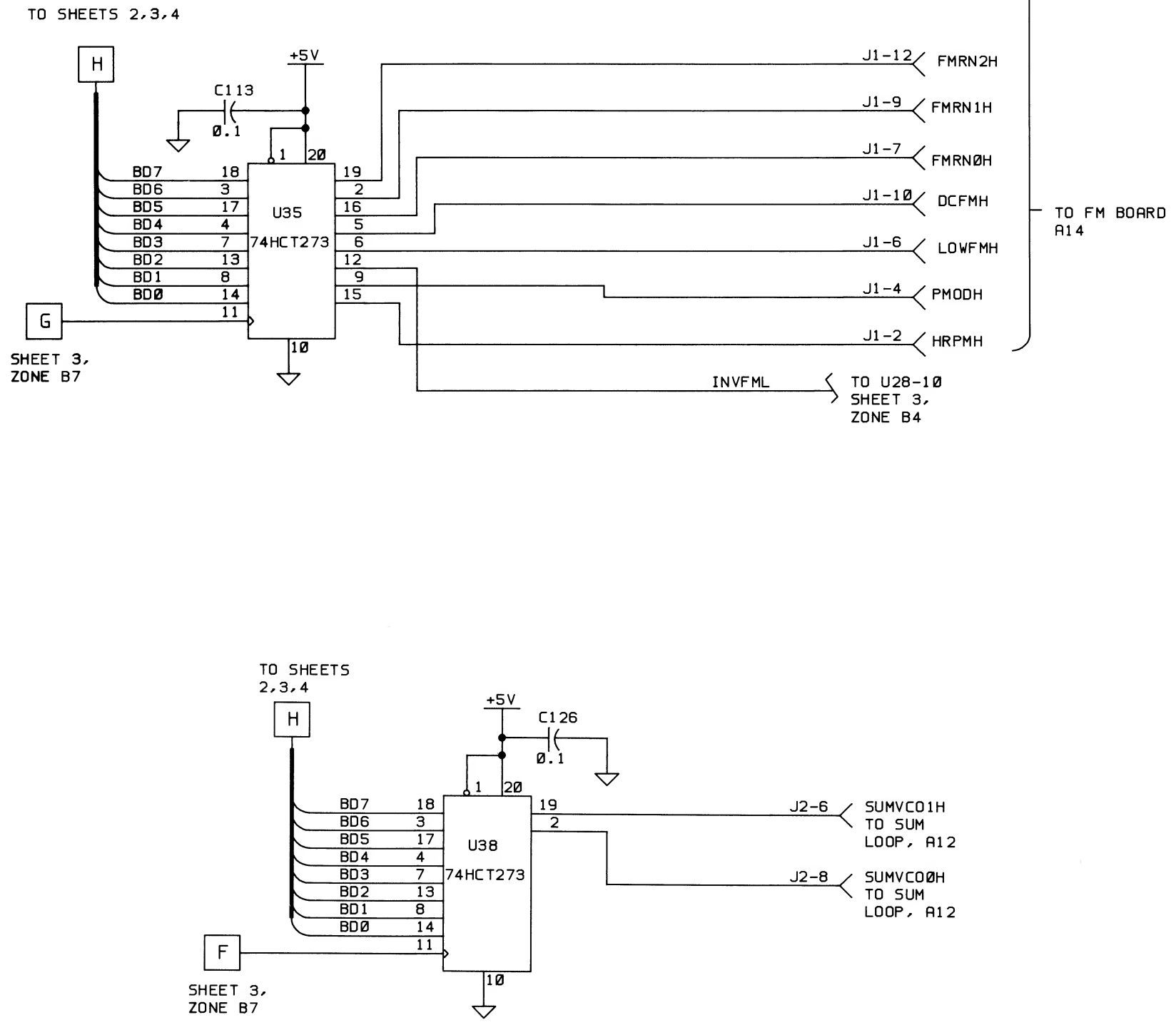


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Figure 8-11. A11 Modulation Control PCA (cont)

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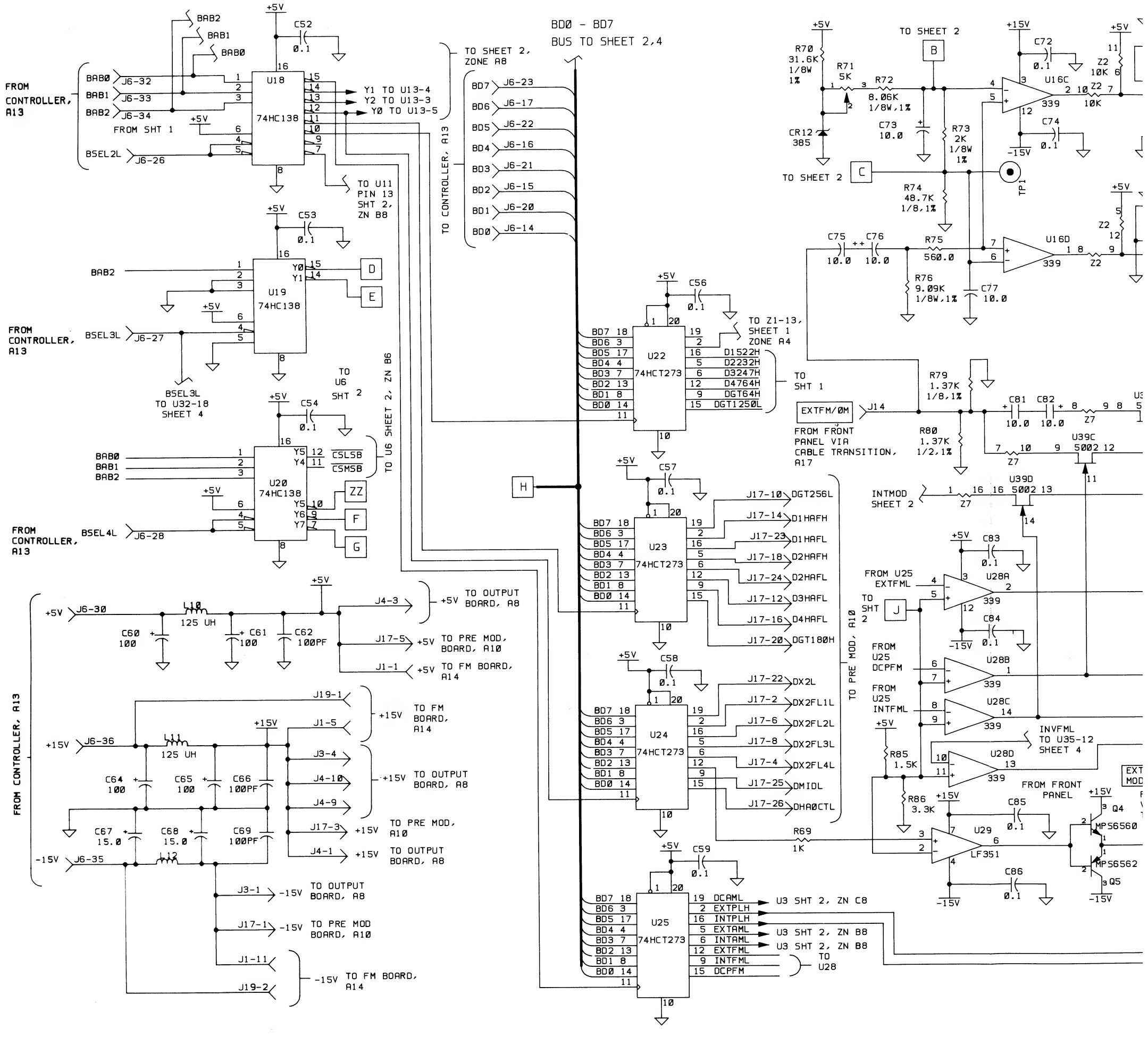
Figure 8-11. A11 Modulation Control PCA (cont)


BAB2
BAB1
BAB0
+5V
C52
0.1
U18
74HC138
FROM CONTROLLER, A13
BAB0 J6-32
BAB1 J6-33
BAB2 J6-34
FROM SHT 1
BSEL2L J6-26
Y1 TO U13-4
Y2 TO U13-3
Y0 TO U13-5
TO U11 PIN 13 SHT 2, ZN B8
C53
U19
BAB2
BSEL3L J6-27
FROM CONTROLLER, A13
BSEL3L TO U32-18 SHEET 4
TO U6 SHT 2
C54
U20
BAB0
BAB1
BAB2
BSEL4L J6-28
FROM CONTROLLER, A13
CSLSB
CSMSB
TO U6 SHEET 2, ZN B6
ZZ
F
G
TO CONTROLLER, A13
TO SHEET 2, ZONE A8
BD7 J6-23
BD6 J6-17
BD5 J6-22
BD4 J6-16
BD3 J6-21
BD2 J6-15
BD1 J6-20
BD0 J6-14
BD0 - BD7
BUS TO SHEET 2,4
C56
U22
74HCT273
TO Z1-13, SHEET 1 ZONE A4
D1522H
D2232H
D3247H
D4764H
DGT64H
DGT1250L
H
C57
U23
74HCT273
J17-10 DGT256L
J17-14 D1HAFH
J17-23 D1HAFL
J17-18 D2HAFH
J17-24 D2HAFL
J17-12 D3HAFL
J17-16 D4HAFL
J17-20 DGT180H
C58
U24
74HCT273
J17-22 DX2L
J17-2 DX2FL1L
J17-6 DX2FL2L
J17-8 DX2FL3L
J17-4 DX2FL4L
J17-25 DMIDL
J17-26 DHA0CTL
TO PRE MOD, A10
C59
U25
74HCT273
DCAML
EXTPLH
INTPLH
EXTAML
INTAML
EXTFML
INTFML
DCPFM
U3 SHT 2, ZN C8
U3 SHT 2, ZN B8
U3 SHT 2, ZN B8
TO U28
+5V TO OUTPUT BOARD, A8
J4-3
J17-5 +5V TO PRE MOD, BOARD, A10
J1-1 +5V TO FM BOARD, A14
L10 125 UH
C60 100
C61 100
C62 100PF
FROM CONTROLLER, A13
J19-1
J1-5
+15V TO FM BOARD, A14
J3-4
J4-10
J4-9
+15V TO OUTPUT BOARD, A8
J17-3 +15V TO PRE MOD, A10
J4-1 +15V TO OUTPUT BOARD, A8
L11 125 UH
C64 100
C65 100
C66 100PF
C67 15.0
C68 15.0
C69 100PF
L12
J3-1 -15V TO OUTPUT BOARD, A8
J17-1 -15V TO PRE MOD BOARD, A10
J1-11
J19-2
-15V TO FM BOARD, A14
TO SHEET 2
R70 31.6K 1/8W 1%
R71 5K
R72 8.06K 1/8W,1%
C72 0.1
U16C 339
Z2 10K
C73 10.0
R73 2K 1/8W 1%
C74 0.1
-15V
CR12 385
TO SHEET 2
C
TP1
R74 48.7K 1/8,1%
C75 10.0
C76 10.0
R75 560.0
U16D 339
R76 9.09K 1/8W,1%
C77 10.0
TO SHT 1
EXTFM/0M
J14
FROM FRONT PANEL VIA CABLE TRANSITION, A17
R79 1.37K 1/8,1%
R80 1.37K 1/2,1%
C81 10.0
C82 10.0
Z7
U39C 5002
U39D 5002
INTMOD SHEET 2
C83 0.1
U28A 339
FROM U25 EXTFML
TO SHT 2
J
C84 0.1
FROM U25 DCPFM
U28B 339
FROM U25 INTFML
U28C 339
INVFML TO U35-12 SHEET 4
R85 1.5K
U28D 339
R86 3.3K
FROM FRONT PANEL
C85 0.1
U29 LF351
R69 1K
Q4 MPS6560
Q5 MPS6562
C86 0.1

J1

C61+, SHT 3 B7	⟵	1	+5V
U35-15, SHT 4 A7	⟵	2	HRPMH
U36-6, SHT 4 C6	⟵	3	FM STEER
U35-9, SHT 4 A7	⟵	4	PMODH
C65+, SHT 3 B7	⟵	5	+15V
U35-6, SHT 4 A7	⟵	6	LOWFMH
U35-16, SHT 4 A7	⟵	7	FMRN0H
	⟵	8	
U35-2, SHT 4 A7	⟵	9	FMRN1H
U35-5, SHT 4 A7	⟵	10	DCFMH
C68-, SHT 3 A8	⟵	11	-15V
U35-19, SHT 4 A7	⟵	12	FMRN2H
J6-29	⟵	13	+30V
J6-9	⟵	14	DCFMLO
J6-6	⟵	15	FM UNLKL
J6-10	⟵	16	DCFMHI

TO A14, FM BOARD

J2

J6-2	⟵	1	SUMUNLKL
	⟵	2	
J6-11	⟵	3	SUMVOLH
U40-12, SHT 3 D2	⟵	4	SUMCOMPH2
U40-15, SHT 3 D2	⟵	5	SUMCOMPH0
U38-19, SHT 4 A4	⟵	6	SUMVCO1H
U40-16, SHT 3 D2	⟵	7	SUMCOMPH5
U38-2, SHT 4 A4	⟵	8	SUMVCO0H
U40-19, SHT 3 D2	⟵	9	SUMCOMPH7
U40-2, SHT 3 D2	⟵	10	SUMCOMPH6
U40-5, SHT 3 D2	⟵	11	SUMCOMPH4
U40-6, SHT 3 D2	⟵	12	SUMCOMPH3
U40-9, SHT 3 D2	⟵	13	SUMCOMPH1
U36-13, SHT 4 D6	⟵	14	SUMSTEER

TO A12, SUM LOOP

J3

C68-, SHT 3 A8	⟶	1	-15V
Q3-COLL, SHT 2 C1	⟶	2	VSERIES
CR11-CATH, SHT 2 B1	⟶	3	VSHUNT
C65+, SHT 3 B7	⟶	4	+15V
U2-14, SHT 1 B3	⟶	5	GT625
	⟶	6	
U2-8, SHT 1 B3	⟶	7	GT64H
	⟶	8	
U2-7, SHT 1 B3	⟶	9	4764H
R87, SHT 3 A3	⟶	10	HETL
U2-1, SHT 1 C3	⟶	11	3247H
U24-12, SHT 3 A5	⟶	12	(NC)
U1-8, SHT 1 C3	⟶	13	2232H
C29, SHT 2 D6	⟶	14	DET 2
U-1, SHT 1 D3	⟶	15	1522H
C29, SHT 2 D6	⟶	16	DET 1

TO A8, OUTPUT

J4

C65+, SHT 3 B7	⟶	1	+15V
	⟶	2	
C61+, SHT 3 B7	⟶	3	+5V
C102+, SHT 3 B1	⟶	4	-6V
U31-6, SHT 3 A1	⟶	5	PULSE
	⟶	6	
	⟶	7	
	⟶	8	
C65+, SHT 3 B7	⟶	9	+15V
C65+, SHT 3 B7	⟶	10	+15V

TO A8, OUTPUT

J6

U26-5, SHT 3 D3	⟵	1	EXTFMLO
J2-1	⟵	2	SUMUNLKL
R45, SHT 2 D2	⟵	3	ALCUNLVL
R56, SHT 2 C1	⟵	4	SUMUNLVL
NC	⟵	5	SUMVOLL
J1-15	⟵	6	FMUNLKL
U26-13, SHT 3 D3	⟵	7	EXTFMHI
U17-13, SHT 2 A3	⟵	8	EXTAMHI
J1-14	⟵	9	DCFMLO
J1-16	⟵	10	DCFMHI
J2-3	⟵	11	SUMVOLH
	⟵	12	
U17-5, SHT 2 A3	⟵	13	EXTAMLO
U22-14, SHT 3 C6	⟵	14	BD0
U22-13, SHT 3 C6	⟵	15	BD2
U22-4, SHT 3 C6	⟵	16	BD4
U22-3, SHT 3 C6	⟵	17	BD6
	⟵	18	
	⟵	19	
U22-8, SHT 3 C6	⟵	20	BD1
U22-7, SHT 3 C6	⟵	21	BD3
U22-17, SHT 3 C6	⟵	22	BD5
U22-18, SHT 3 C6	⟵	23	BD7
U9-8, SHT 4 B6	⟵	24	SWEEP OUT
	⟵	25	
U18-4, SHT 3 D7	⟵	26	BSEL2L
U19-4, SHT 3 C7	⟵	27	BSEL3L
U20-4, SHT 3 B7	⟵	28	BSEL4
J1-13	⟵	29	+30V
C60+, SHT 3 B8	⟵	30	+5V
	⟵	31	
U18-1, SHT 3 D7	⟵	32	BAB0
U18-2, SHT 3 D7	⟵	33	BAB1
U18-3, SHT 3 D7	⟵	34	BAB2
C67-, SHT 3 A8	⟵	35	-15V
C64+, SHT 3 B8	⟵	36	+15V

TO A13, CONTROLLER

J13

C14, SHT 2 C7	⟵		EXT AM

J14

R80, SHT 3 C4	⟵		EXT FM/ØM

FROM FRONT PANEL VIA A17 CABLE TRANSITION

J15

Z3-3, SHT 2 C7	⟵		INT MOD

FROM A6, MOD OSCILLATOR VIA A17 CABLE TRANSITION

J16

U9-1, SHT 4 C6	⟵		FM

TO A14, FM BOARD

J17

C68-, SHT 3 A8	⟶	1	-15V
U24-2, SHT 3 B5	⟶	2	DX2FL1L
C65+, SHT 3 B7	⟶	3	+15V
U24-6, SHT 3 B5	⟶	4	DX2FL4L
C61+, SHT 3 B7	⟶	5	+5V
U24-16, SHT 3 B5	⟶	6	DX2FL2L
	⟶	7	
U24-5, SHT 3 B5	⟶	8	DX2FL3L
	⟶	9	
U23-19, SHT 3 B5	⟶	10	DGT256L
	⟶	11	
U23-12, SHT 3 B5	⟶	12	D3HAFL
	⟶	13	(KEY)
U23-2, SHT 3 B5	⟶	14	D1HAFH
	⟶	15	
U23-9, SHT 3 B5	⟶	16	D4HAFL
	⟶	17	
U23-5, SHT 3 B5	⟶	18	D2HAFH
	⟶	19	
U23-15, SHT 3 B5	⟶	20	DGT180H
R53, SHT 2 C2	⟶	21	DSUMLV
U24-19, SHT 3 B5	⟶	22	DX2L
U23-16, SHT 3 B5	⟶	23	D1HAFL
U23-6, SHT 3 B5	⟶	24	DWHAFL
U24-9, SHT 3 B5	⟶	25	DMIDL
U24-15, SHT 3 B5	⟶	26	DHAOCTL

TO A10, PREMODULATOR

J19

C64+, SHT 3 B8	⟵	1	+15V
C67-, SHT 3 A8	⟵	2	-15V

TO A14, FM BOARD

J20

L2, SHT 3 B3	⟵		PULSE MOD

TO FRONT PANEL VIA A17 CABLE TRANSITION

CONNECTOR SUMMARY

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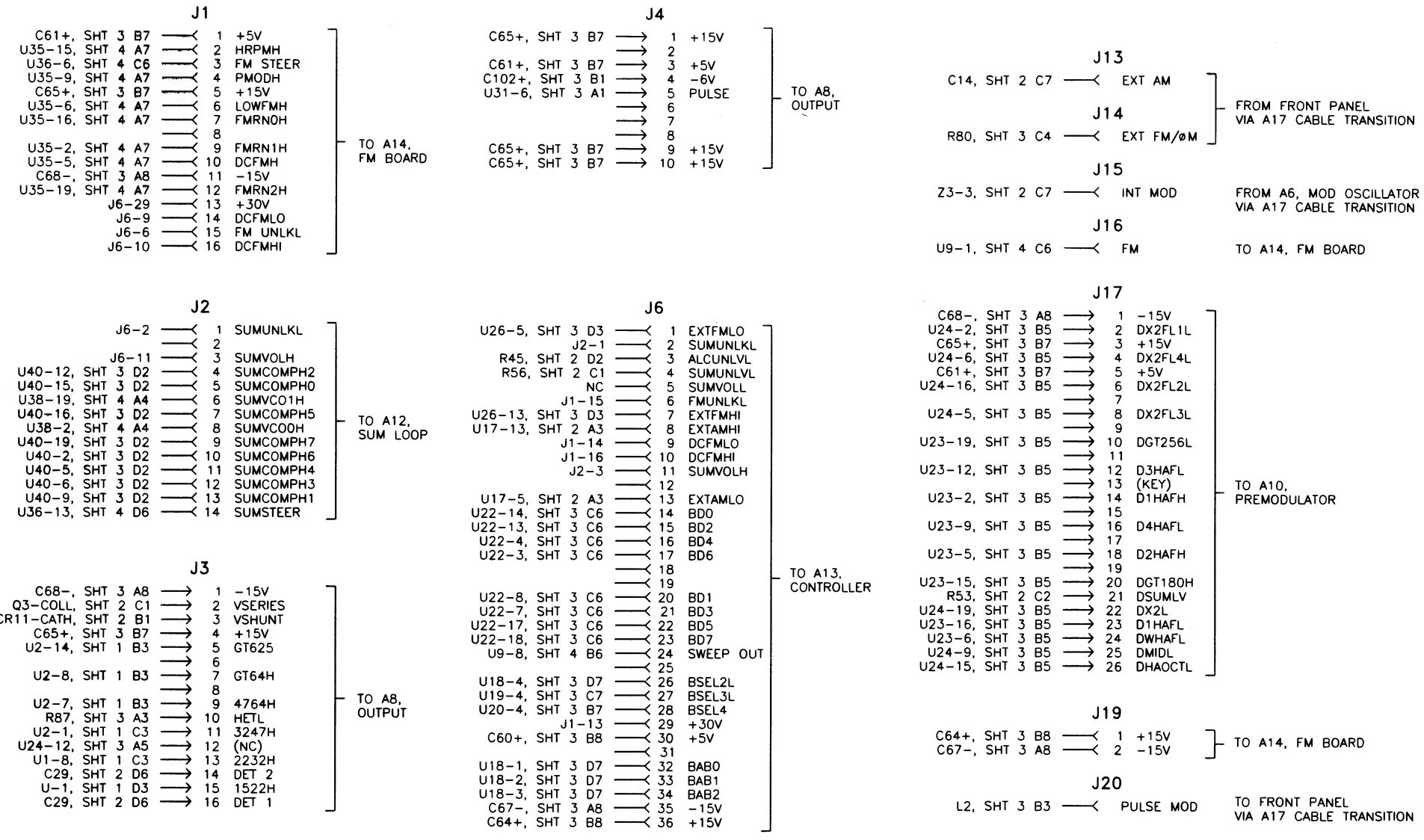
Figure 8-11. A11 Modulation Control PCA (cont)



CONNECTOR SUMMARY

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Figure 8-11. A11 Modulation Control PCA (cont)

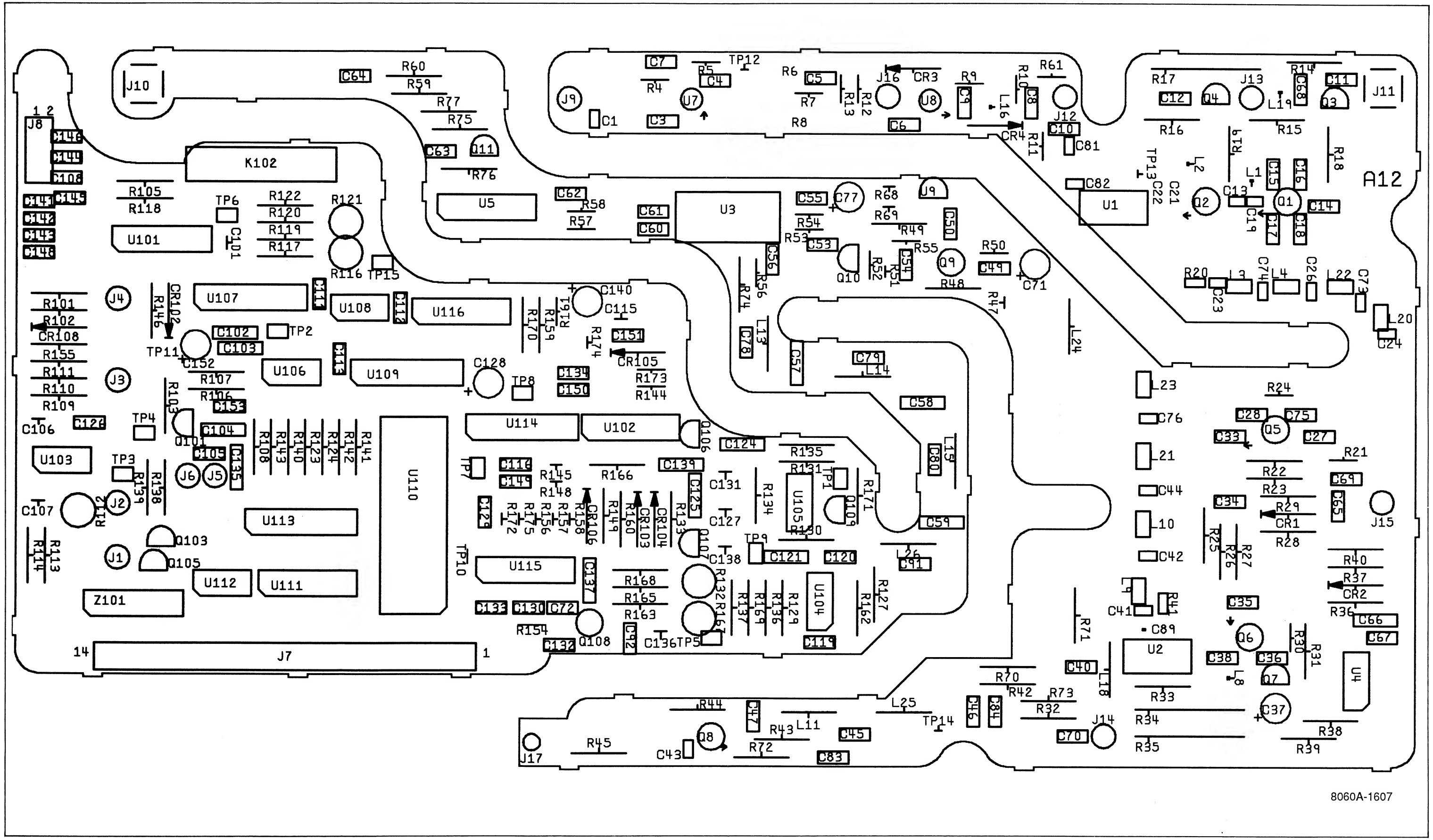
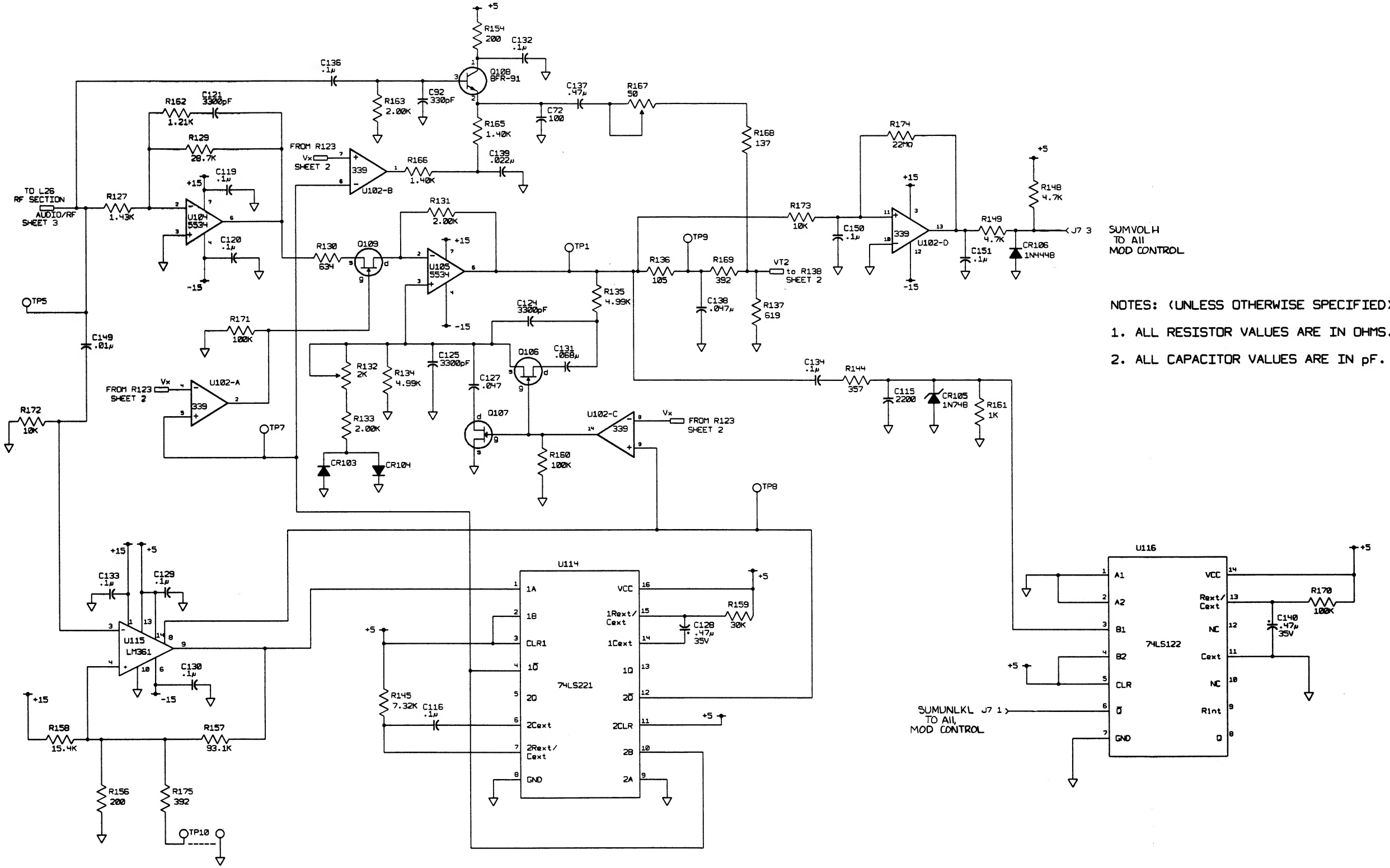


Figure 8-12. A12 Sum Loop PCA



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN pF.

AUDIO SECTION

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Figure 8-12. A12 Sum Loop PCA (cont)

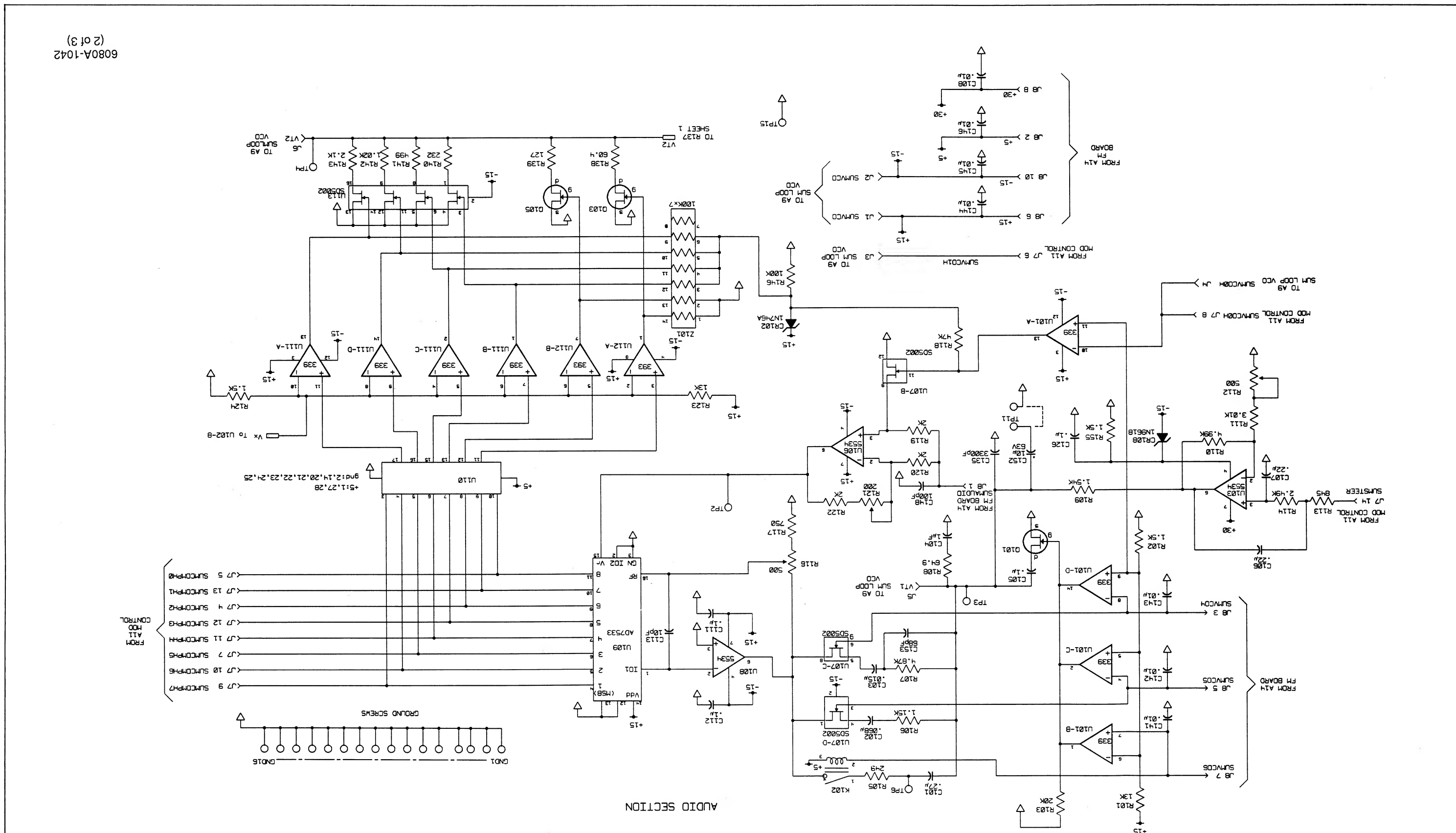

Figure 8-12. A12 Sum Loop PCA (cont)

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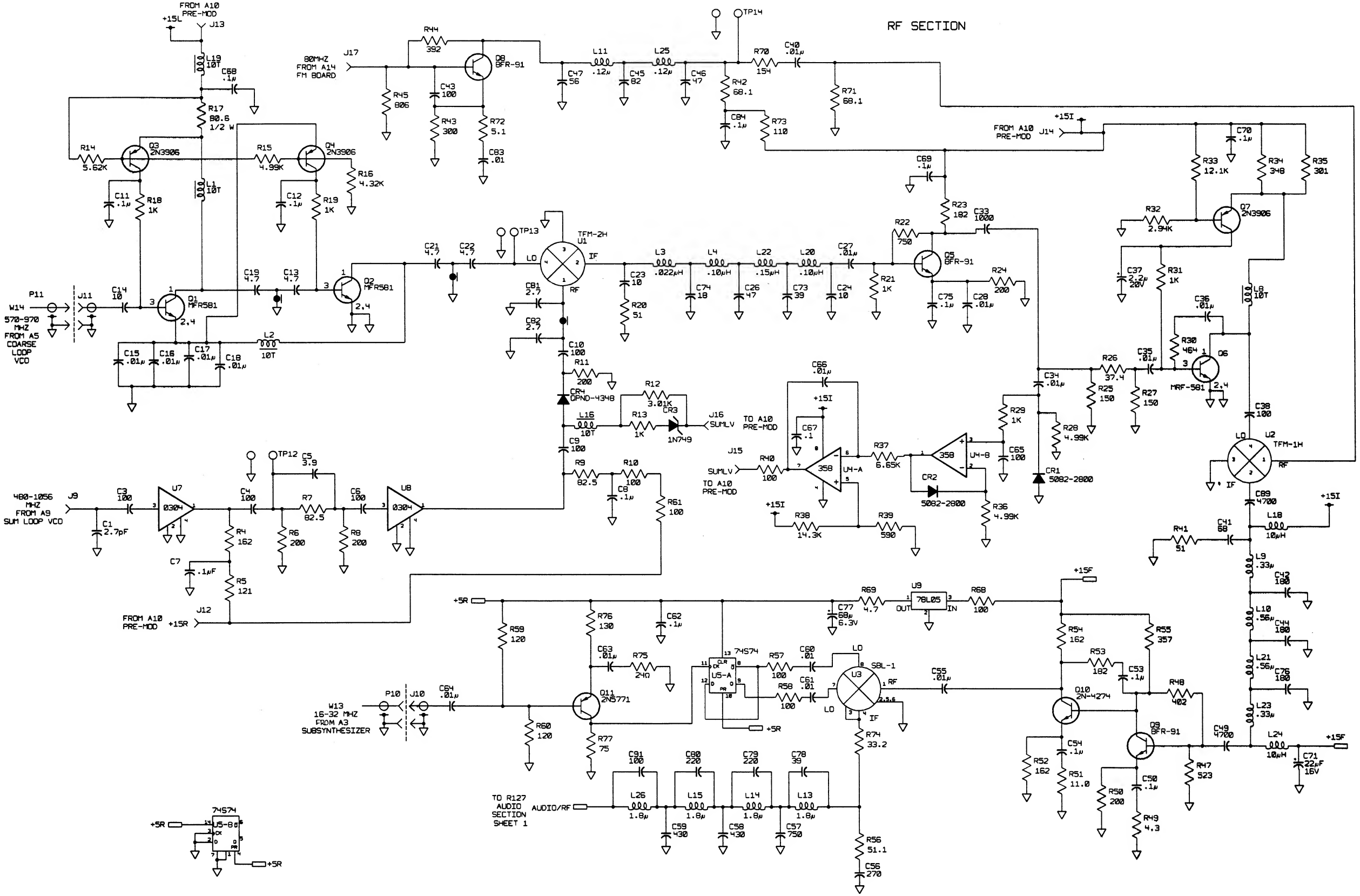
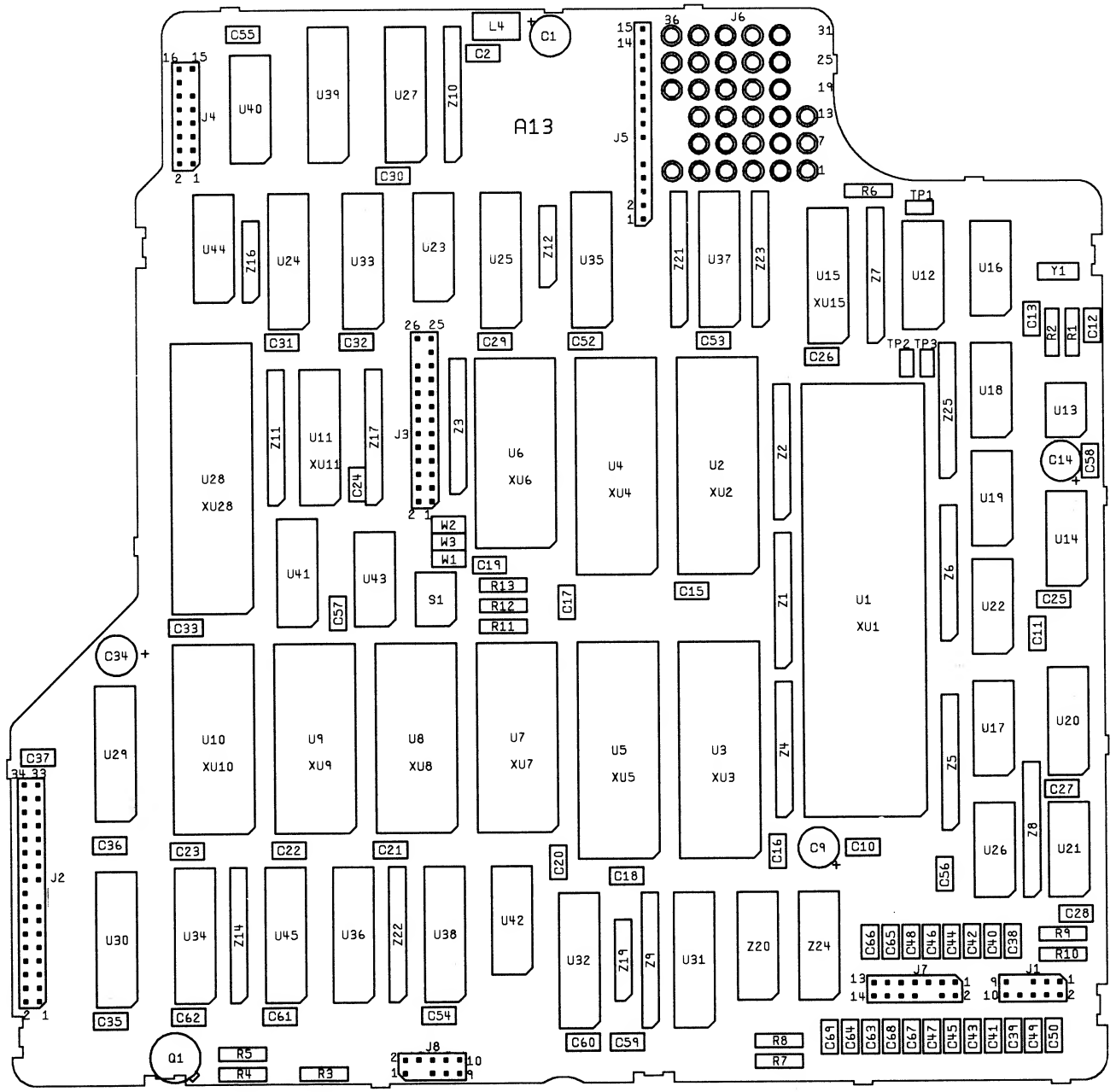


Figure 8-12. A12 Sum Loop PCA (cont)



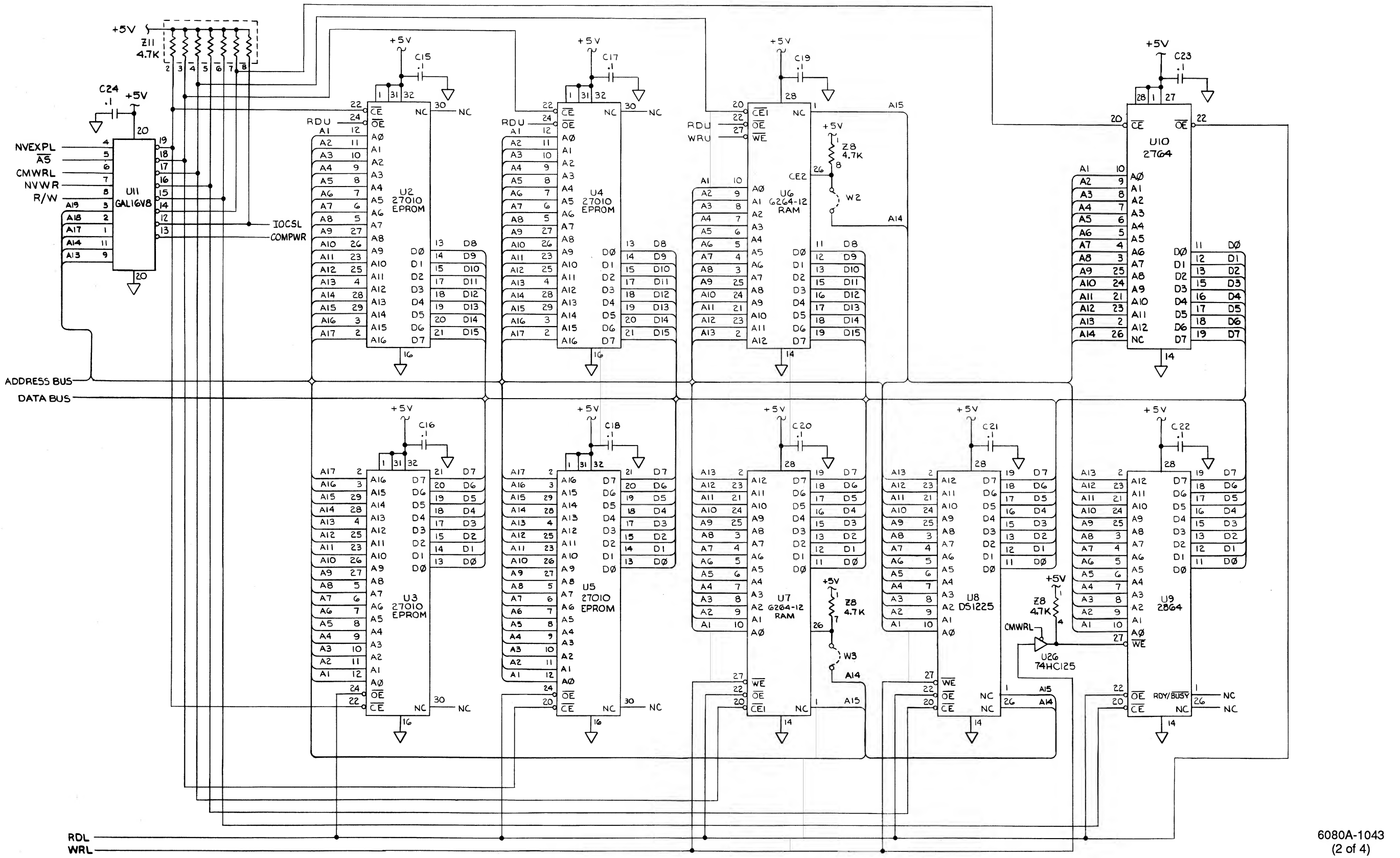
6080A-1601

Figure 8-13. A13 Controller PCA

NOTES: UNLESS OTHERWISE SPECIFIED,
1. ALL CAPACITOR VALUES ARE IN MICROFARADS.
2. ALL RESISTOR VALUES ARE IN OHMS, ±5%, 1/4W.
3. FOR ASSEMBLY DRAWING SEE 6080A-4701.
4. FOR REF DES DRAWING SEE 6080A-1601.

6080A-1043
(1 of 4)

Figure 8-13. A13 Controller PCA (cont)



6080A-1043
(2 of 4)

Figure 8-13. A13 Controller PCA (cont)

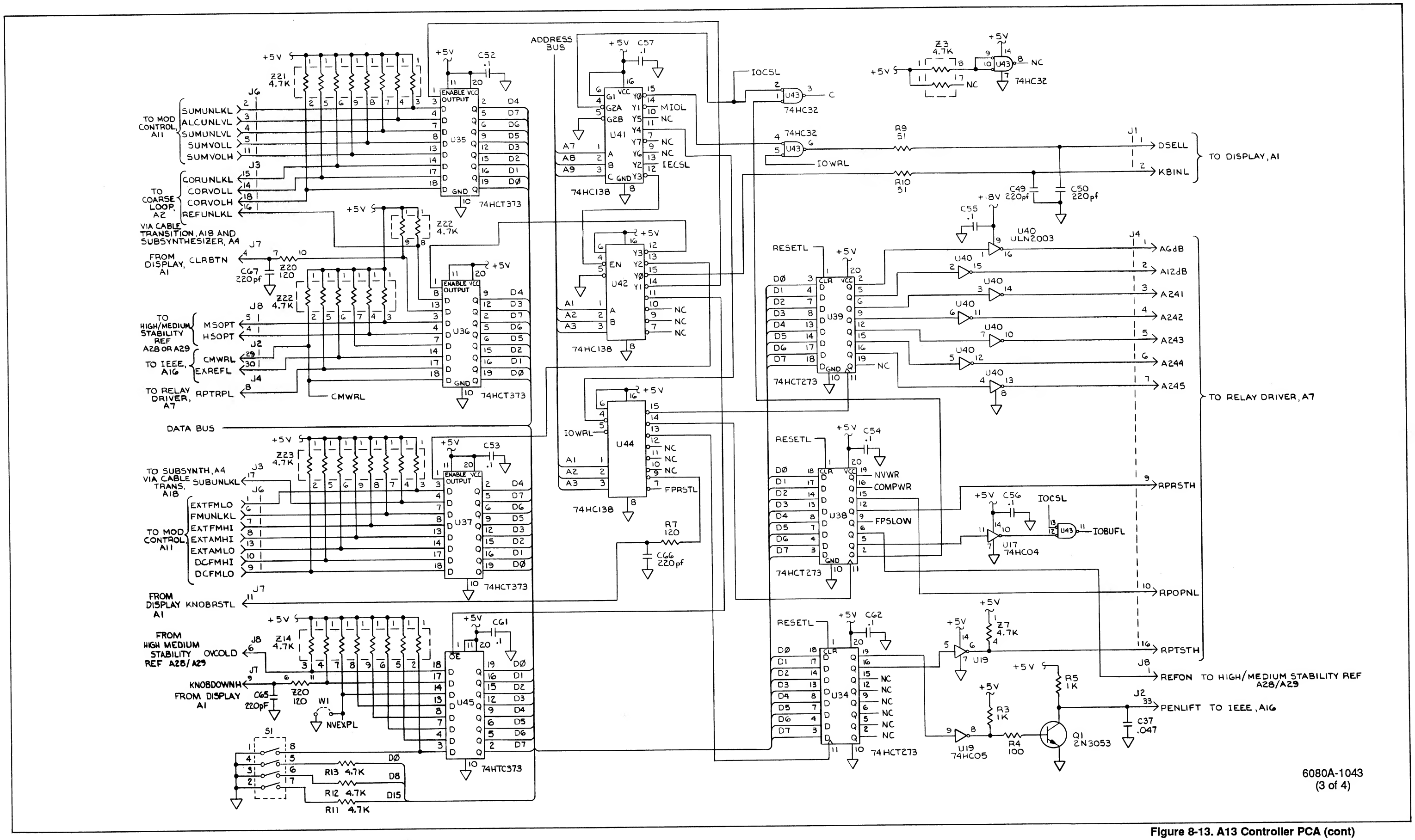


Figure 8-13. A13 Controller PCA (cont)

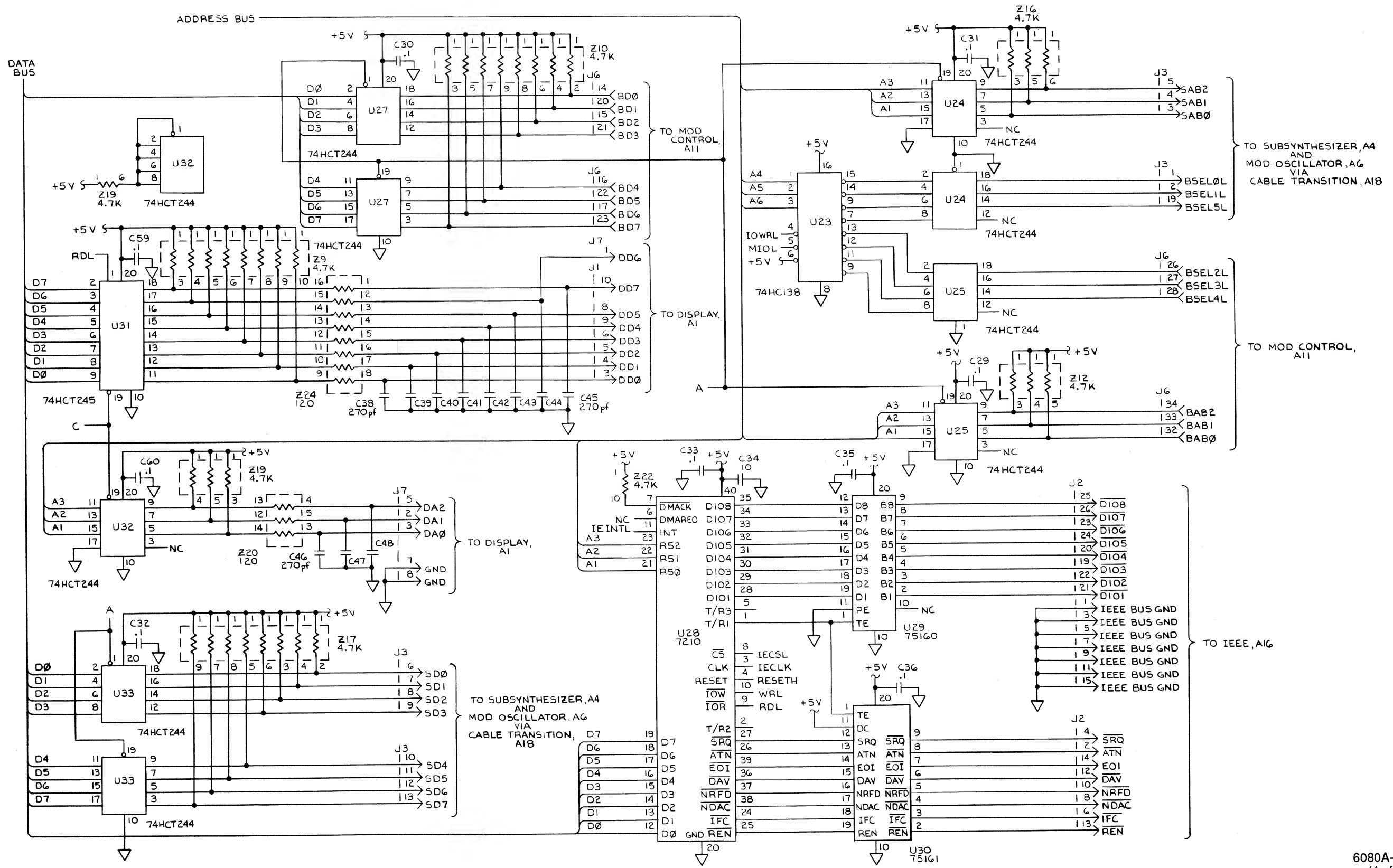
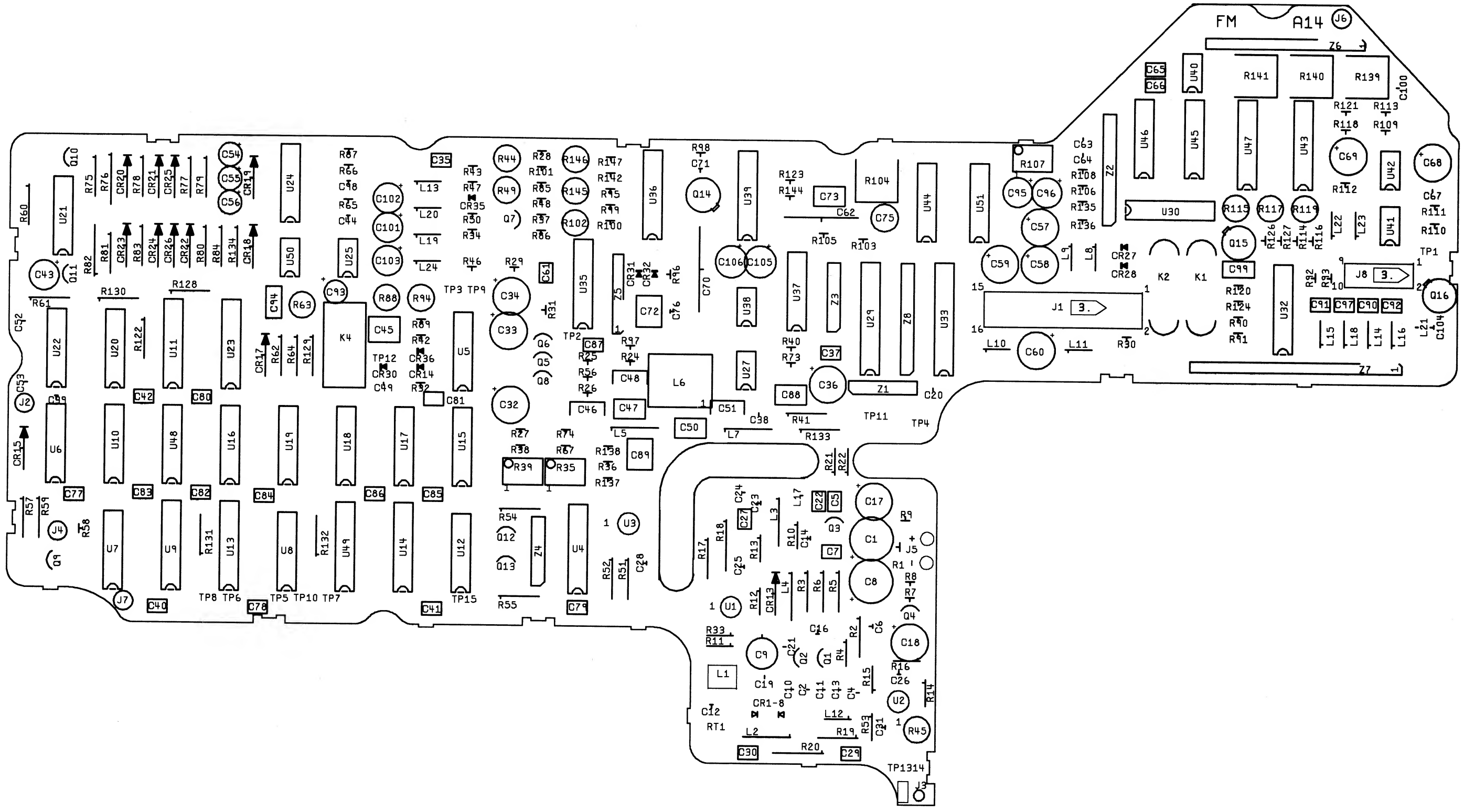
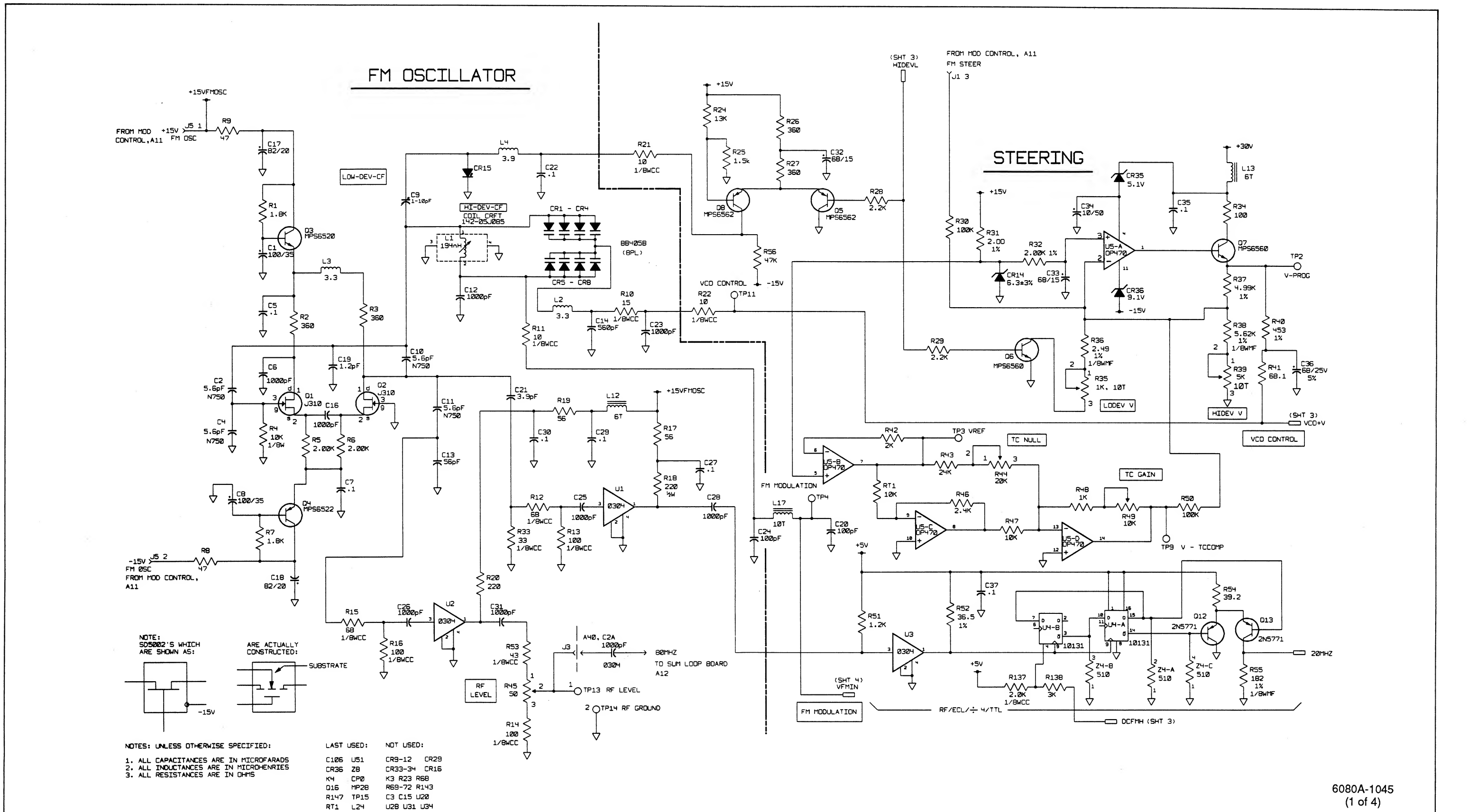


Figure 8-13. A13 Controller PCA (cont)



6080A-1606

Figure 8-14. A14 FM PCA



6080A-1045
(1 of 4)

Figure 8-14. A14 FM PCA (cont)

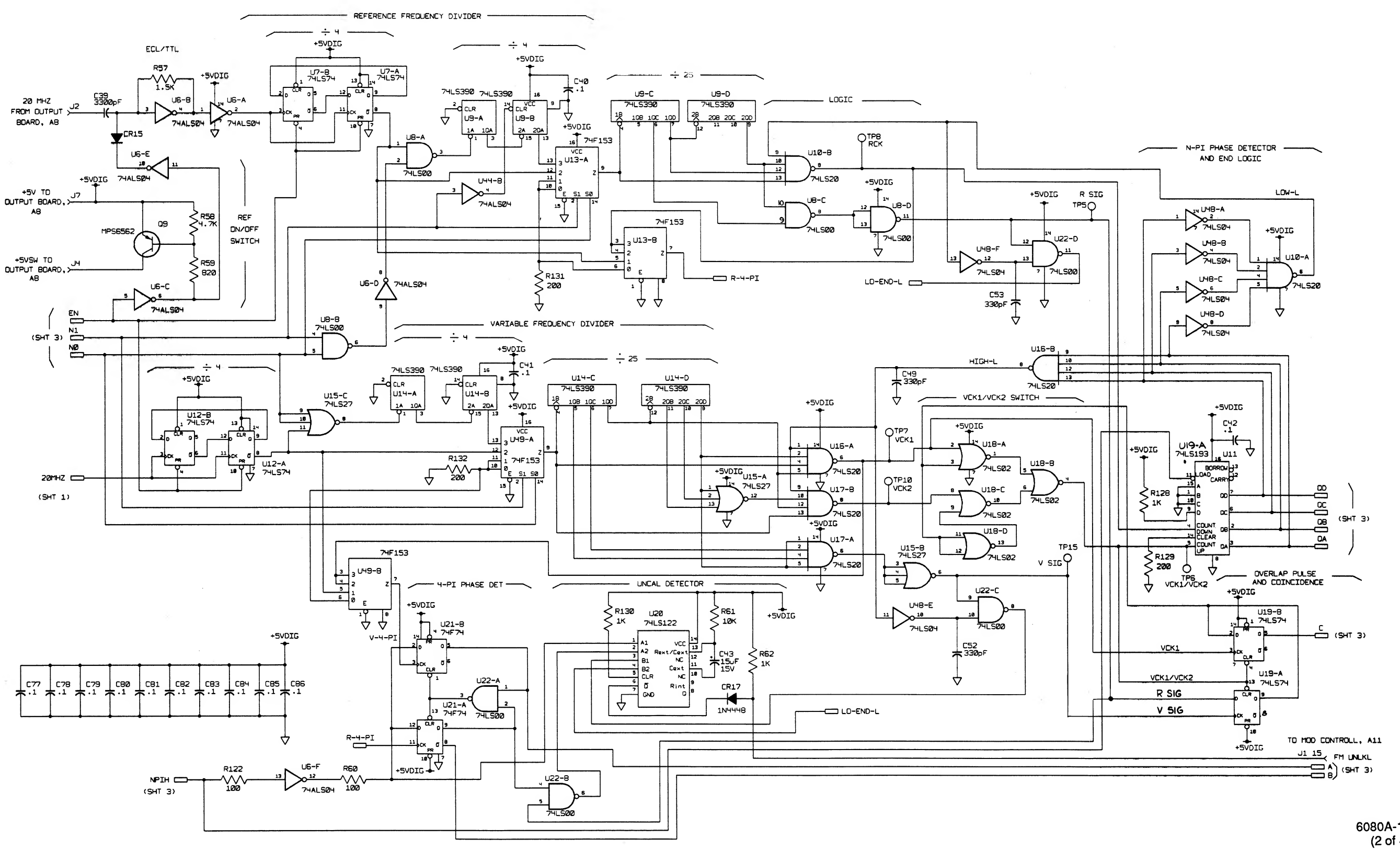


Figure 8-14. A14 FM PCA (cont)

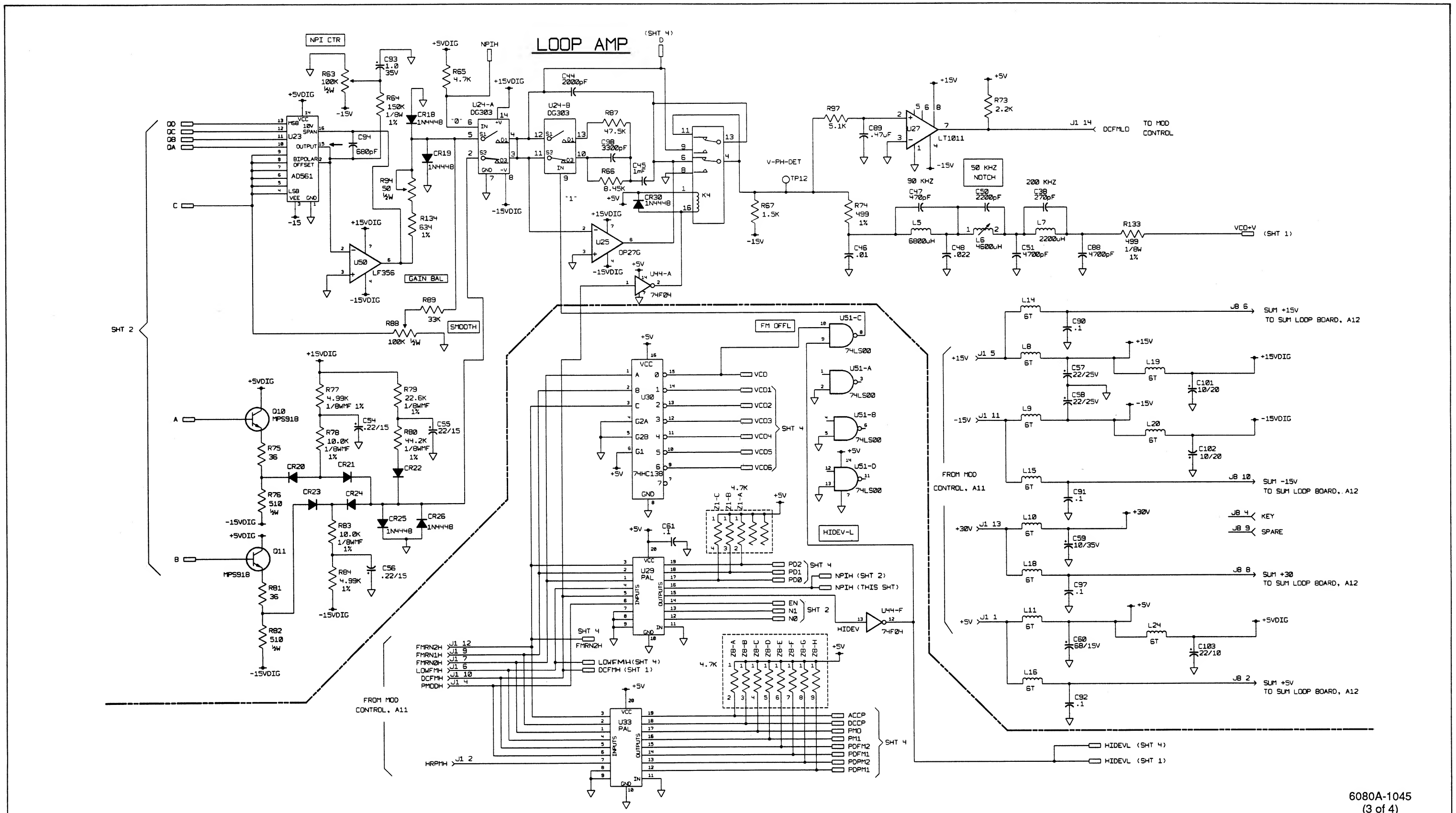
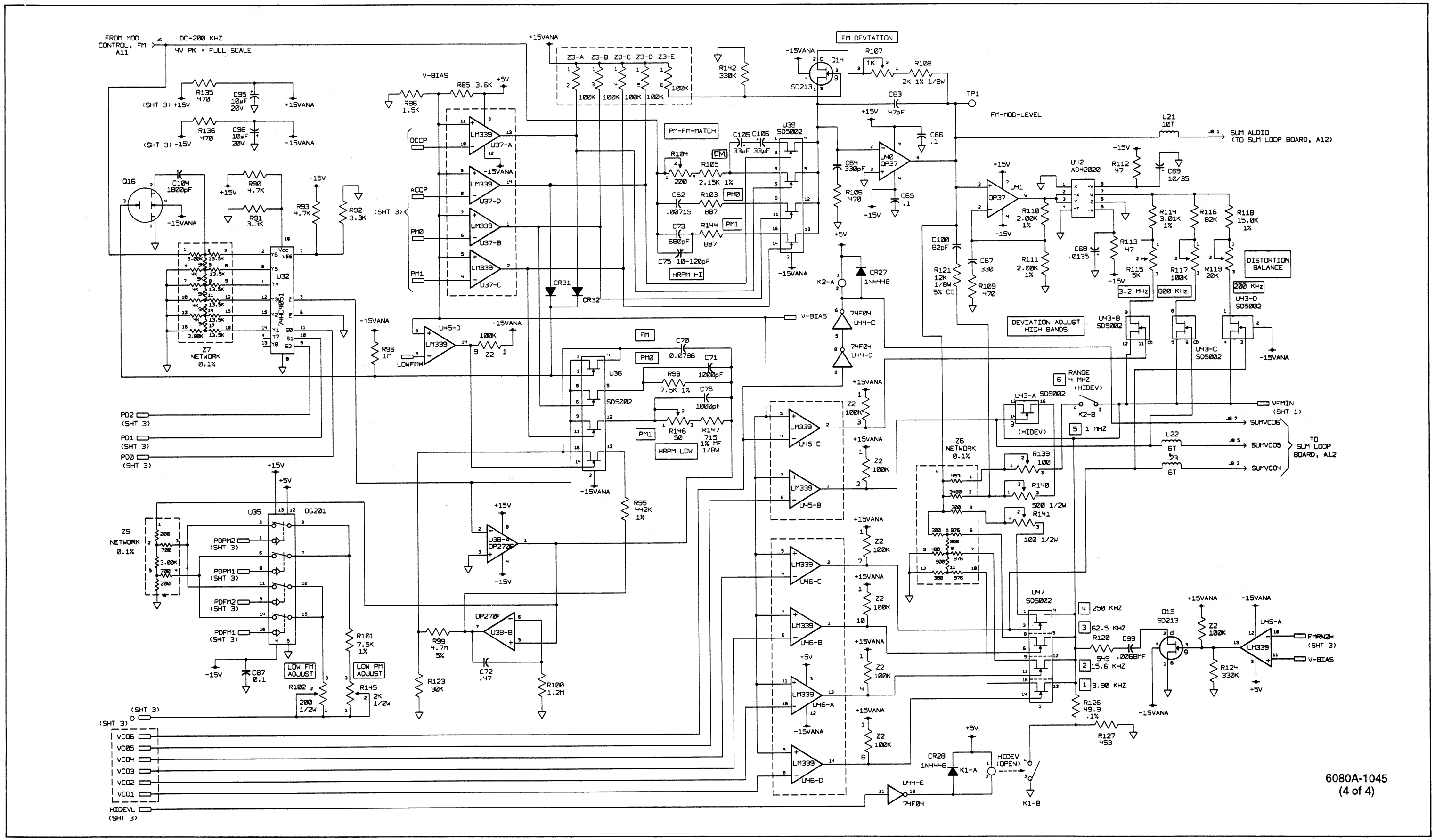
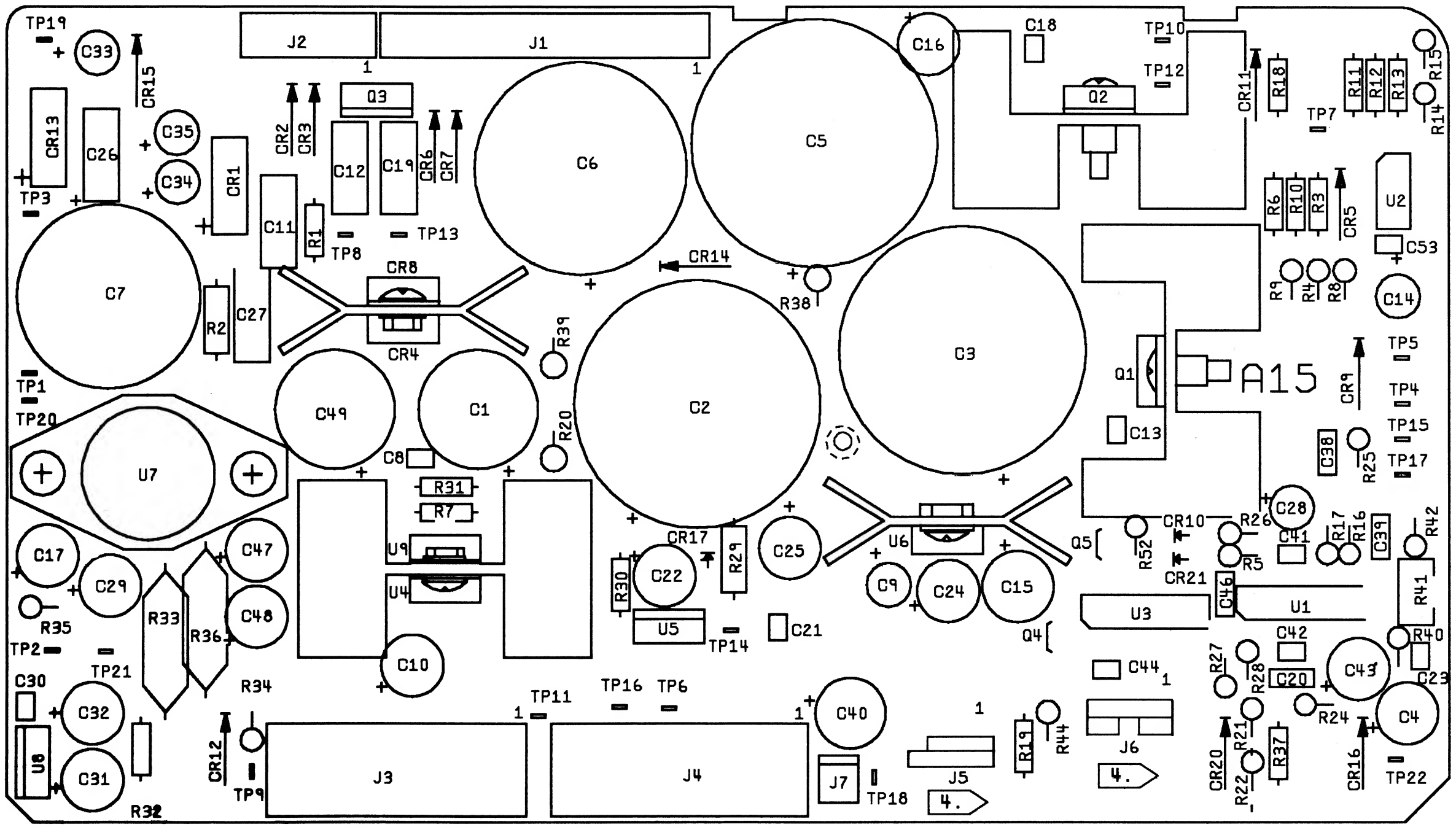


Figure 8-14. A14 FM PCA (cont)



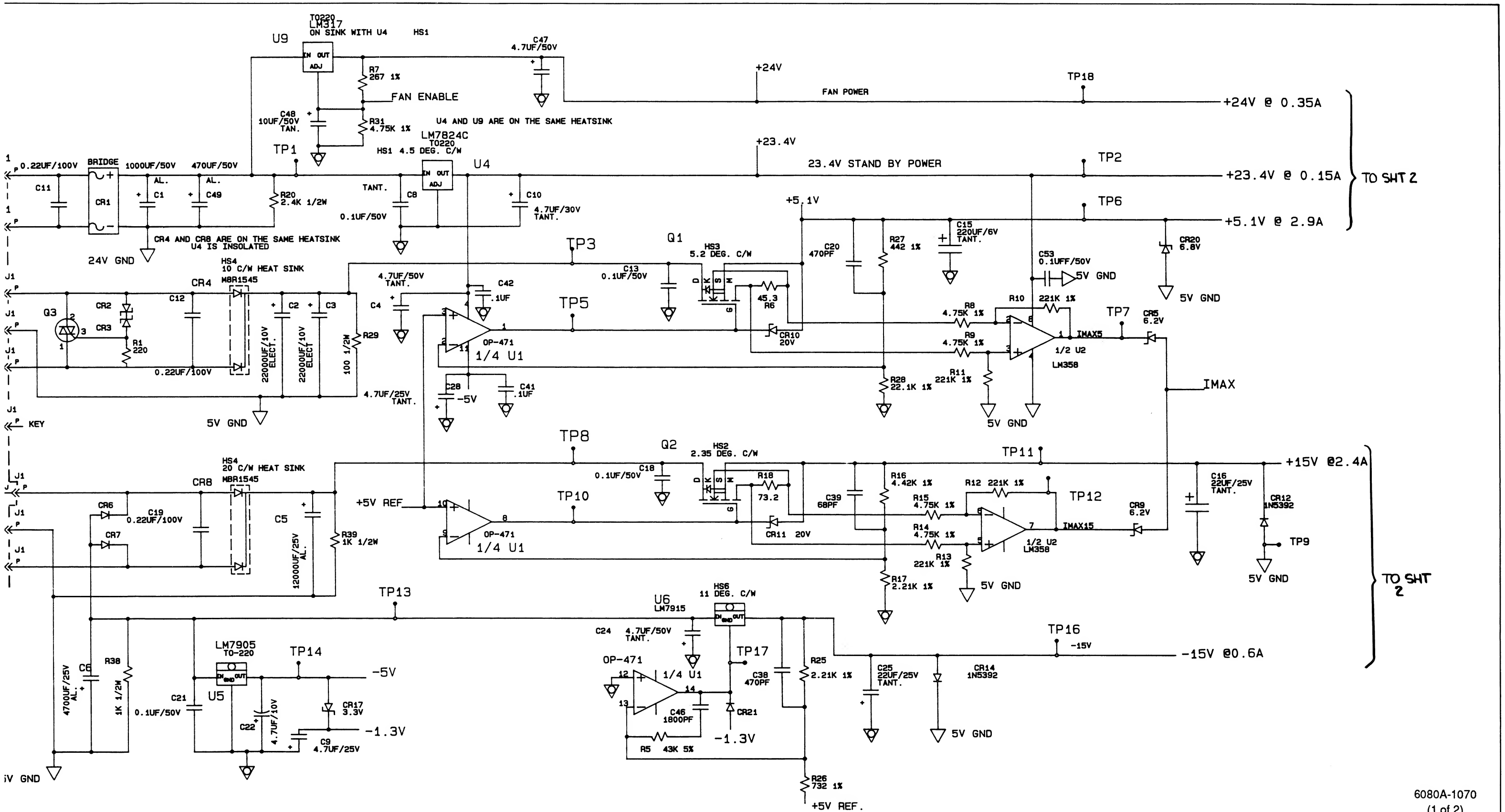
6080A-1045
(4 of 4)

Figure 8-14. A14 FM PCA (cont)



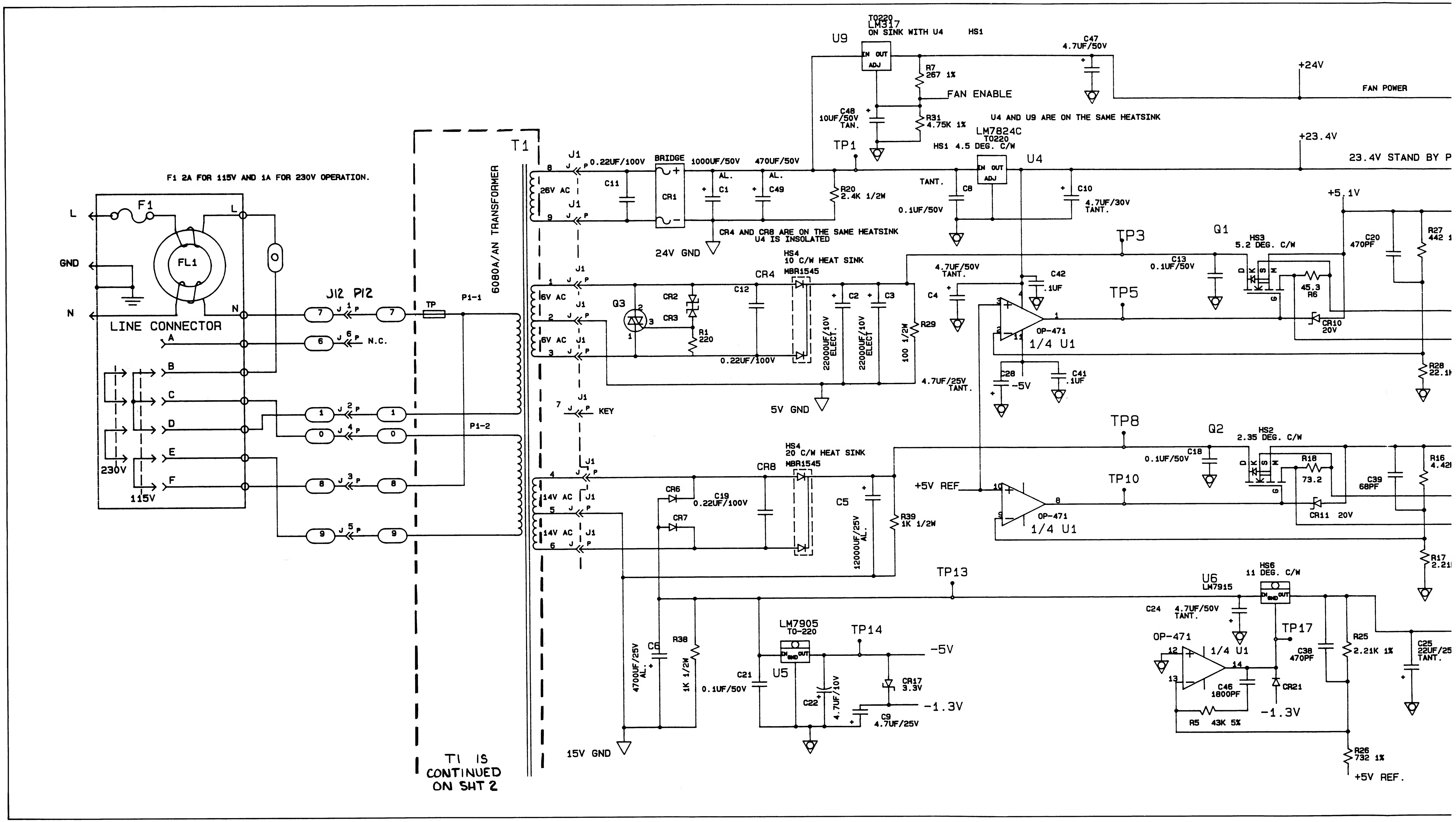
6080A-1606

Figure 8-15. A15 Power Supply PCA



6080A-1070
(1 of 2)

Figure 8-15. A15 Power Supply PCA (cont)


F1 2A FOR 115V AND 1A FOR 230V OPERATION.
LINE CONNECTOR
F1
FL1
L
GND
N
230V
115V
J12 P12
N.C.
TP
P1-1
P1-2
6080A/AN TRANSFORMER
T1
T1 IS CONTINUED ON SHT 2
26V AC
6V AC
14V AC
KEY
0.22UF/100V
C11
BRIDGE
CR1
1000UF/50V
AL.
C1
470UF/50V
C49
R20 2.4K 1/2W
24V GND
CR4 AND CR8 ARE ON THE SAME HEATSINK
U4 IS INSOLATED
TP1
U9
T0220 LM317 ON SINK WITH U4
HS1
R7 267 1%
FAN ENABLE
C48 10UF/50V TAN.
R31 4.75K 1%
C47 4.7UF/50V
+24V
FAN POWER
U4 AND U9 ARE ON THE SAME HEATSINK
LM7824C T0220
HS1 4.5 DEG. C/W
U4
TANT.
C8
0.1UF/50V
C10 4.7UF/30V TANT.
+23.4V
23.4V STAND BY P
Q3
CR2
CR3
R1 220
C12
0.22UF/100V
CR4
HS4 10 C/W HEAT SINK
MBR1545
22000UF/10V ELECT.
C2
C3
100 1/2W
R29
4.7UF/25V TANT.
5V GND
C4
4.7UF/50V TANT.
C42 .1UF
C28 -5V
C41 .1UF
OP-471
1/4 U1
TP3
TP5
C13 0.1UF/50V
Q1
HS3 5.2 DEG. C/W
R6 45.3
CR10 20V
+5.1V
C20 470PF
R27 442
R28 22.1
CR8
HS4 20 C/W HEAT SINK
CR6
CR7
C19 0.22UF/100V
C5
12000UF/25V AL.
R39 1K 1/2W
+5V REF
TP8
TP10
C18 0.1UF/50V
Q2
HS2 2.35 DEG. C/W
R18 73.2
CR11 20V
C39 68PF
R16 4.42
R17 2.21
TP13
4700UF/25V AL.
C6
R38 1K 1/2W
15V GND
LM7905 TO-220
U5
C21 0.1UF/50V
C22 4.7UF/10V
TP14
-5V
CR17 3.3V
-1.3V
C9 4.7UF/25V
U6 LM7915
HS6 11 DEG. C/W
C24 4.7UF/50V TANT.
TP17
1/4 U1
C46 1800PF
CR21
R5 43K 5%
C38 470PF
R25 2.21K 1%
C25 22UF/25 TANT.
R26 732 1%
+5V REF.

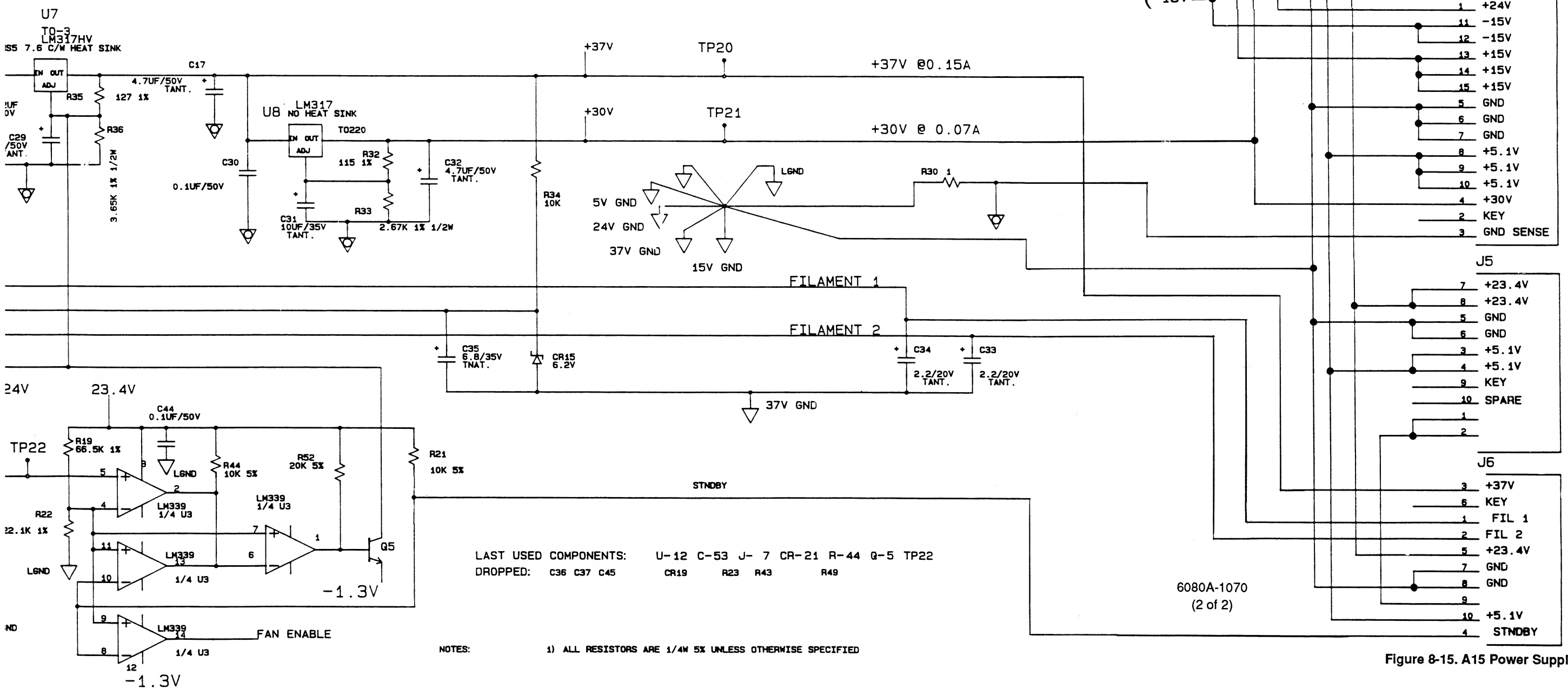


Figure 8-15. A15 Power Supply PCA (cont)

FROM S

T1 (CONTINUED FROM SHT 1)

J1
11
12
37V AC
0.22UF/100V
C26
BRIDGE
CR13
C7 470UF/80V
AL.
R2
6.8K 1/2W
37V GND

TP19

U7
TO-3
LM317HV
HS5 7.6 C/W HEAT SINK
IN OUT ADJ
C27 0.22UF 100V
R35 127 1%
R36
C29 4.7UF/50V TANT.
3.65K 1% 1/2W
C17 4.7UF/50V TANT.

U8 LM317
NO HEAT SINK
TO220
IN OUT ADJ
C30 0.1UF/50V
R32 115 1%
C32 4.7UF/50V TANT.
C31 10UF/35V TANT.
R33 2.67K 1% 1/2W
R34 10K

+37V
TP20
+37V @0.15A

+30V
TP21
+30V @ 0.07A

5V GND
24V GND
37V GND
LGND
15V GND
R30 1

J2
2
3
4
3.0 VAC
6.2 VDC 0 VAC
3.0 VAC
FILAMENT 1
FILAMENT 2

C35 6.8/35V TNAT.
CR15 6.2V
C34 2.2/20V TANT.
C33 2.2/20V TANT.
37V GND

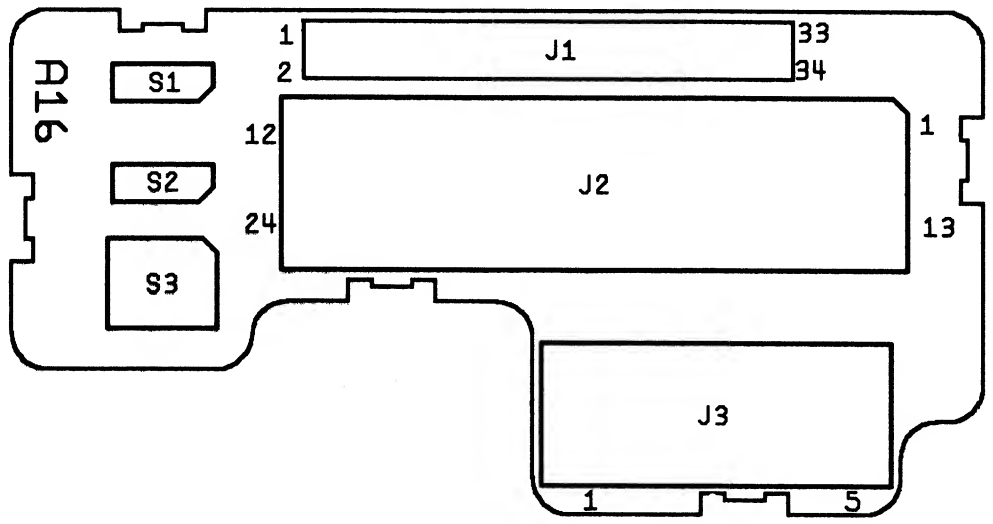
+30V
R24 3K
R40 4.02K 1%
CW
R41 5K
R42 22.1K 1%
C23 0.1UF/50V
CR16 6.3V
TP4
C43 TANT. 4.7UF/10V
REFFERENCE

1/4 U1
TP15
+5V REF
OP-471

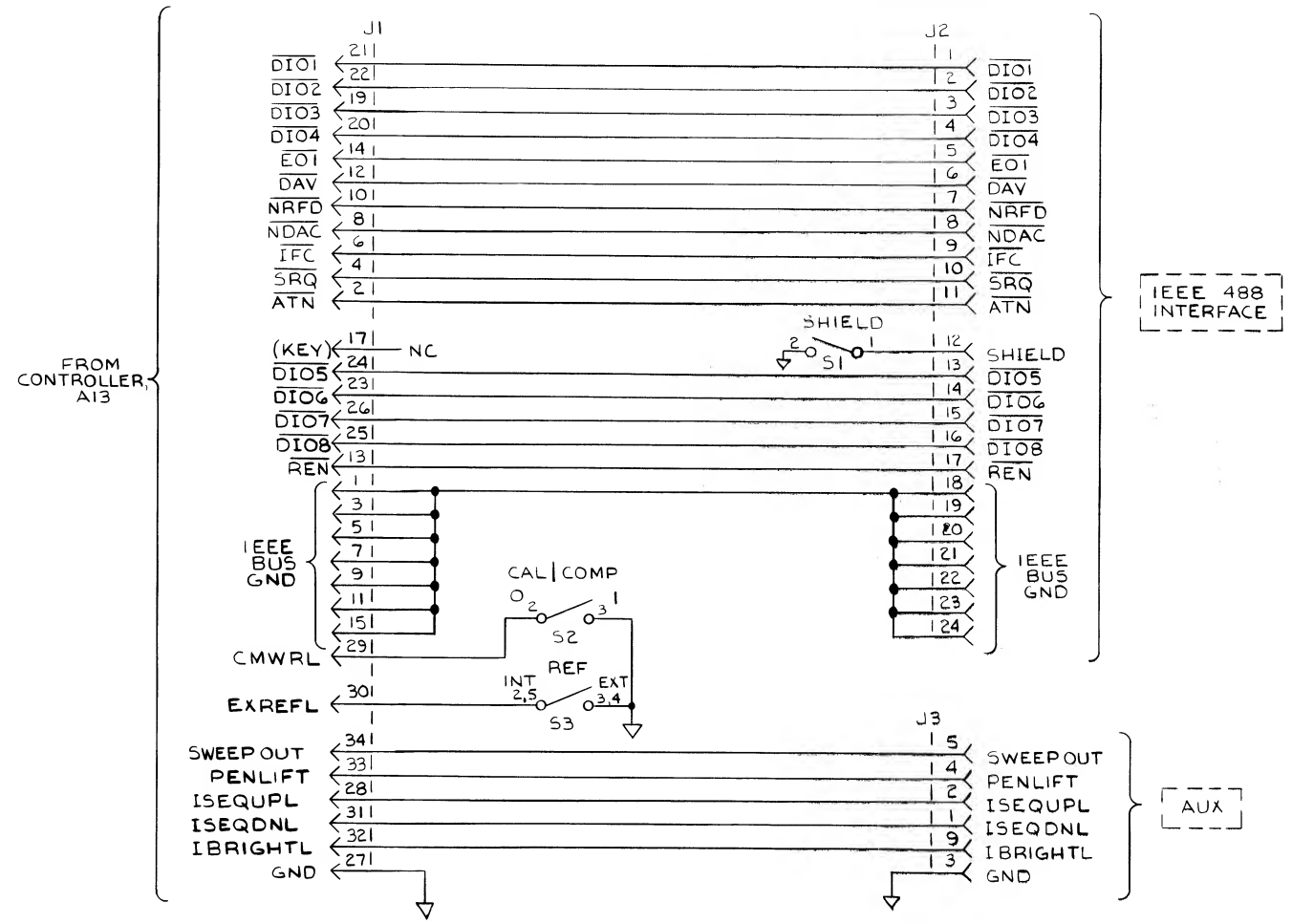
+24V
R37 2.4K
TP22
R19 66.5K 1%
C44 0.1UF/50V
LGND
R44 10K 5%
R52 20K 5%
R21 10K 5%
STNDBY
LM339 1/4 U3
R22 22.1K 1%
Q4
Q5
-1.3V
23.4V
IMAX
R3 820
22K R4
C14 220/35 TANT.
5V GND
FAN ENABLE
-1.3V

LAST USED COMPONENTS: U-12 C-53 J- 7 CR-21 R-44 Q-5 TP22
DROPPED: C36 C37 C45 CR19 R23 R43 R49

NOTES: 1) ALL RESISTORS ARE 1/4W 5% UNLESS OTHERWISE SPECIFIED

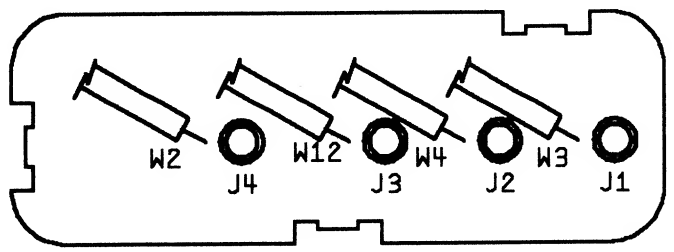


6080A-1604

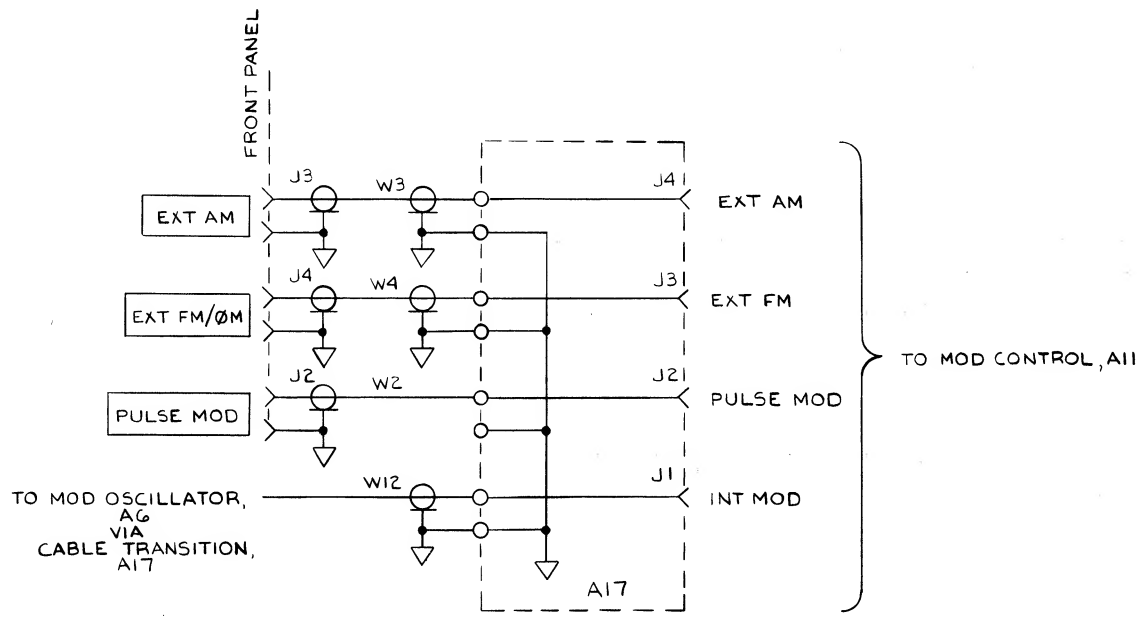


6080A-1071

Figure 8-16. A16 IEEE Connector PCA

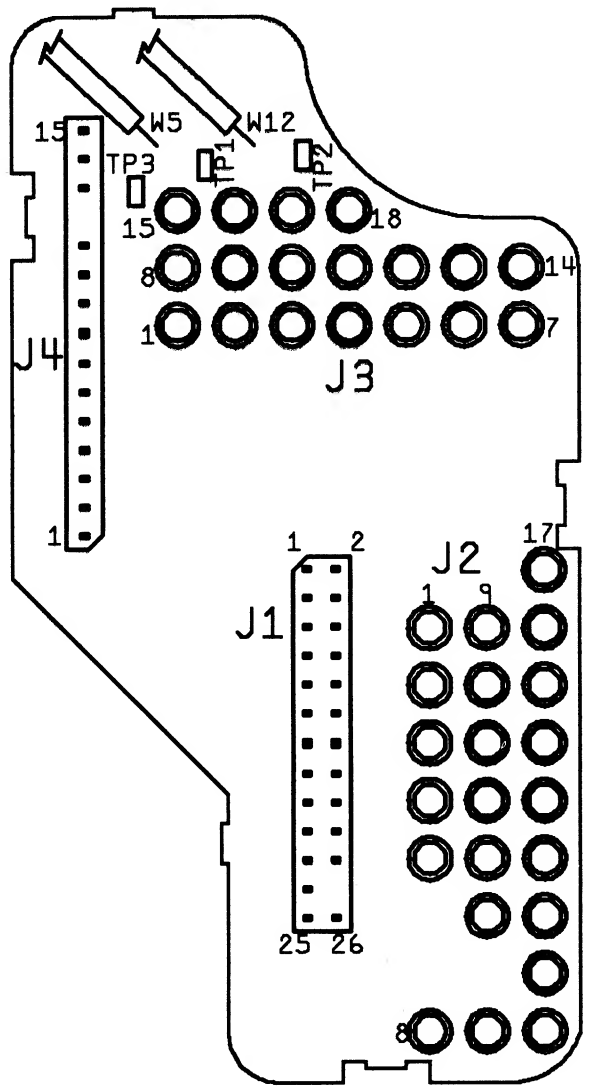


6080A-1610

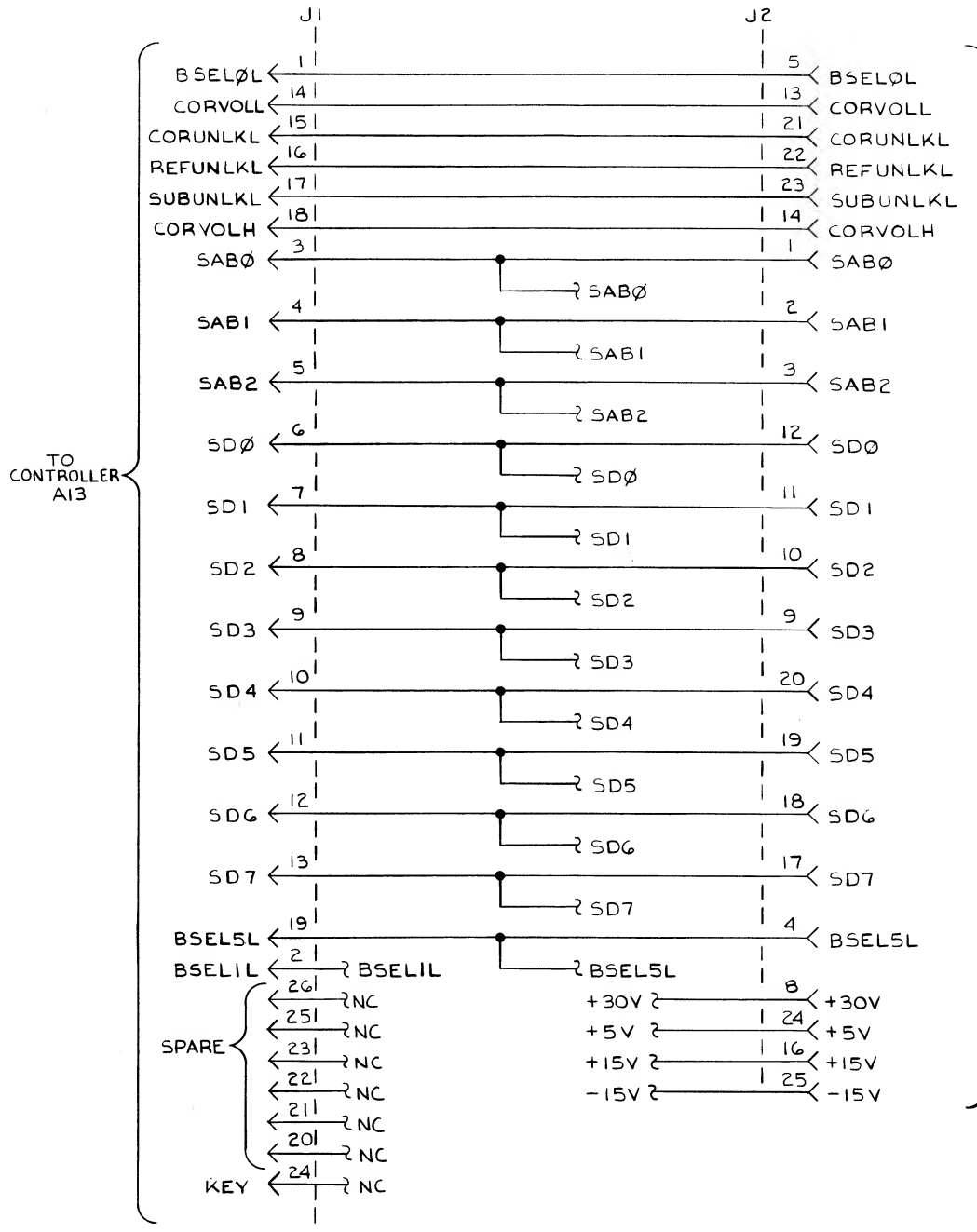


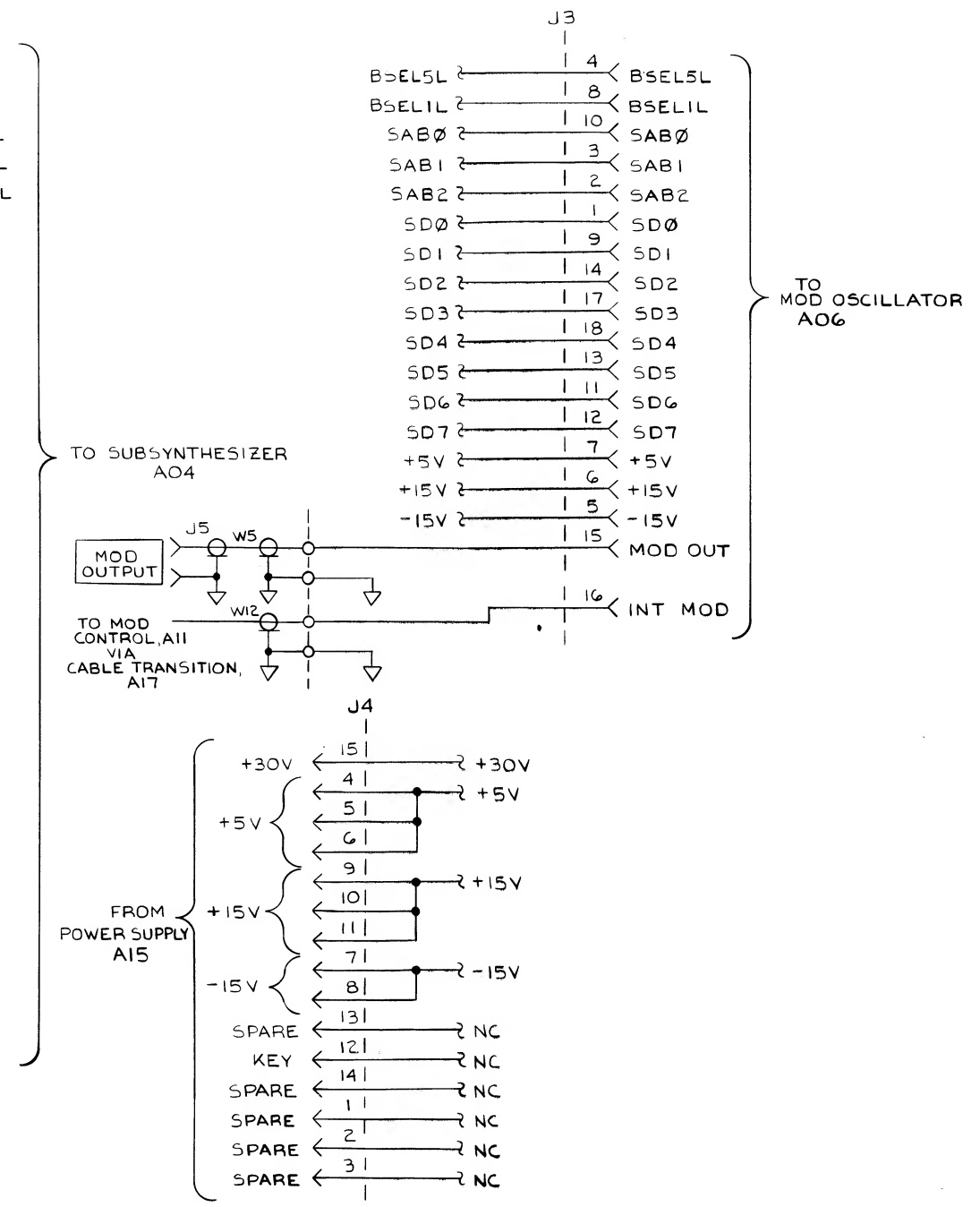
6080A-1044

Figure 8-17. A17 Cable Transition PCA



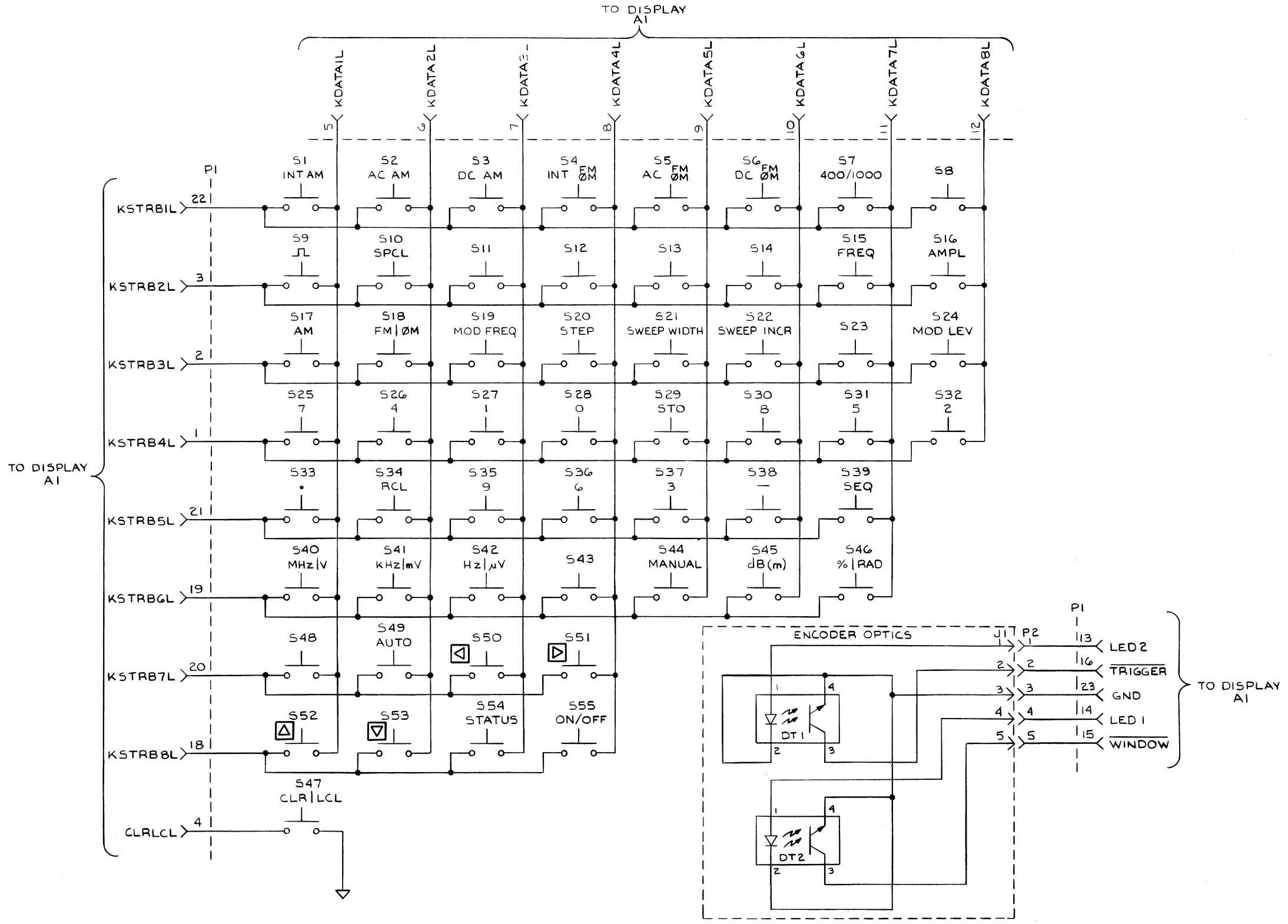
6080A-1610





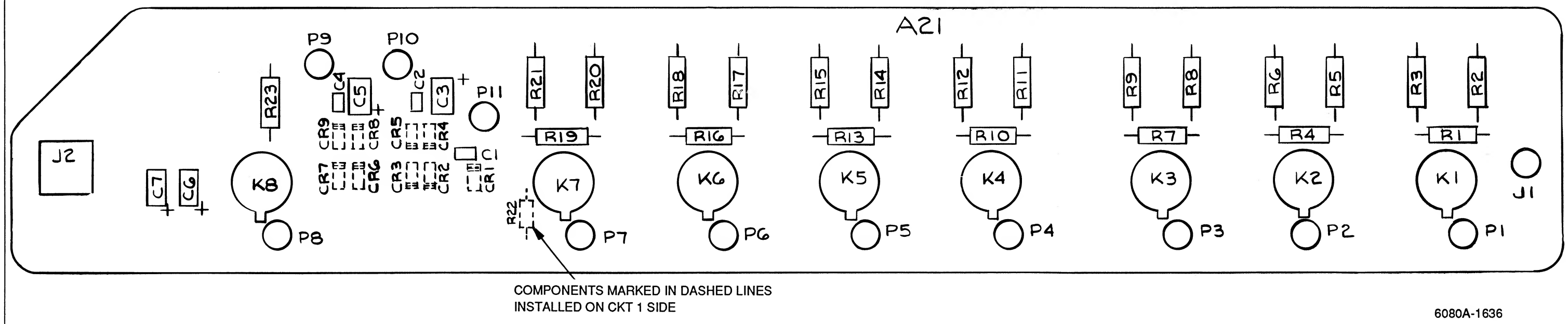
6080A-1065

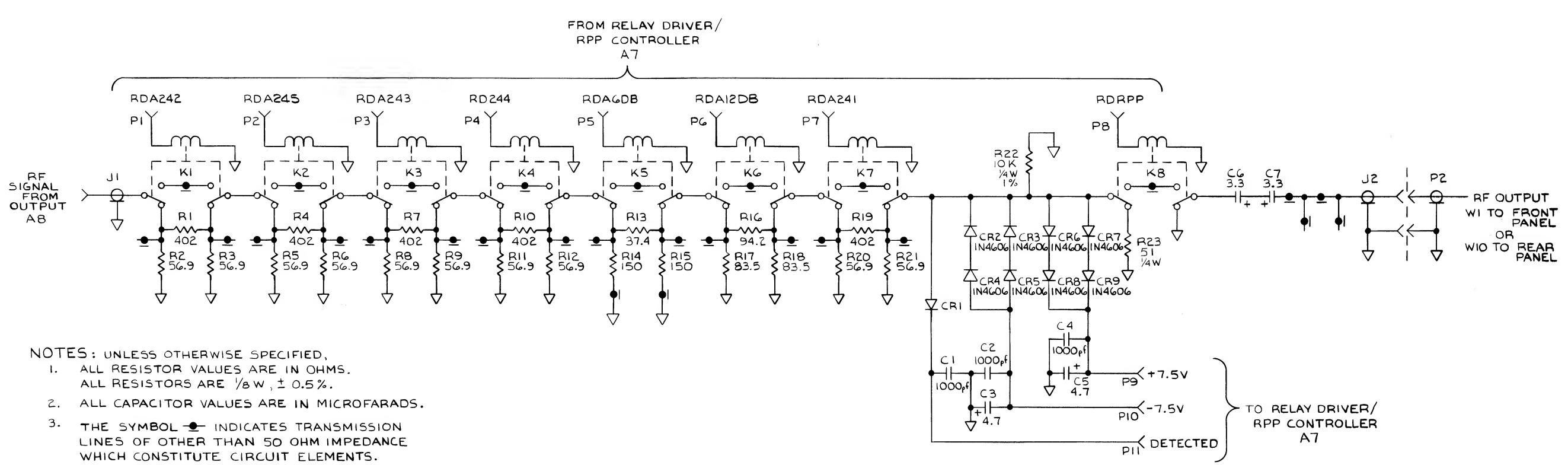
Figure 8-18. A18 Cable Transition PCA



6080A-1051

Figure 8-19. A19 Switch PCA



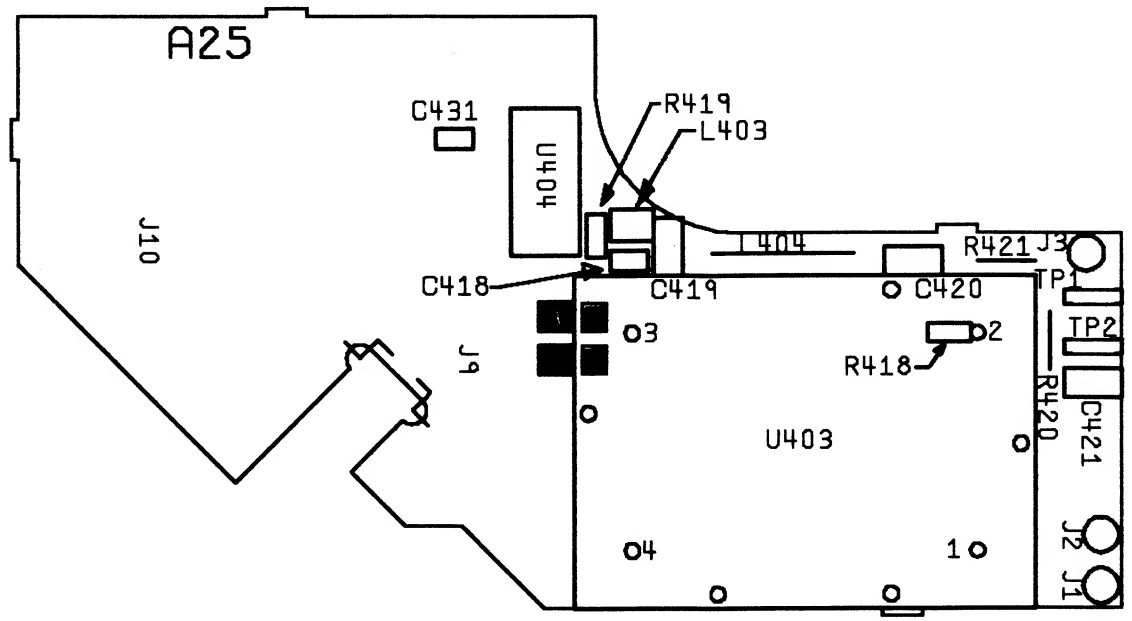


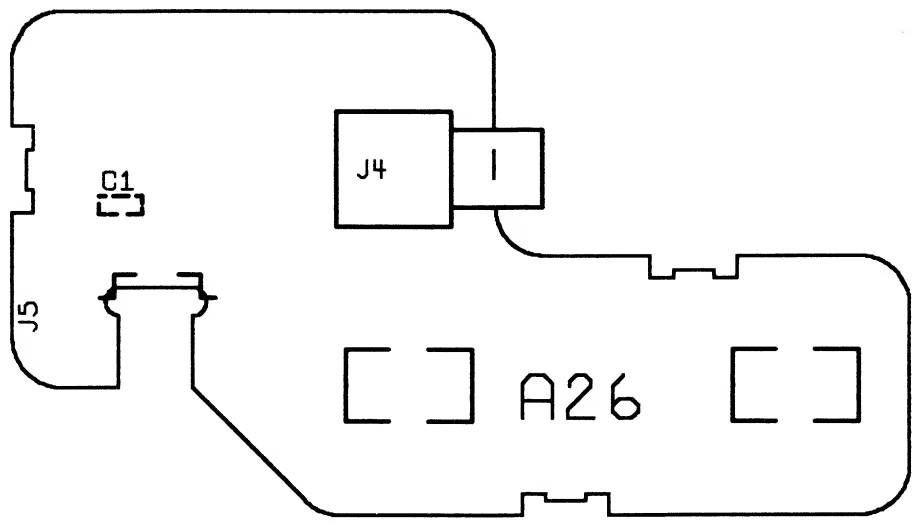
NOTES: UNLESS OTHERWISE SPECIFIED,

1. ALL RESISTOR VALUES ARE IN OHMS. ALL RESISTORS ARE ⅛ W, ± 0.5%.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.
3. THE SYMBOL —●— INDICATES TRANSMISSION LINES OF OTHER THAN 50 OHM IMPEDANCE WHICH CONSTITUTE CIRCUIT ELEMENTS. 50 OHM TRANSMISSION PATHS ARE NOT INDICATED.

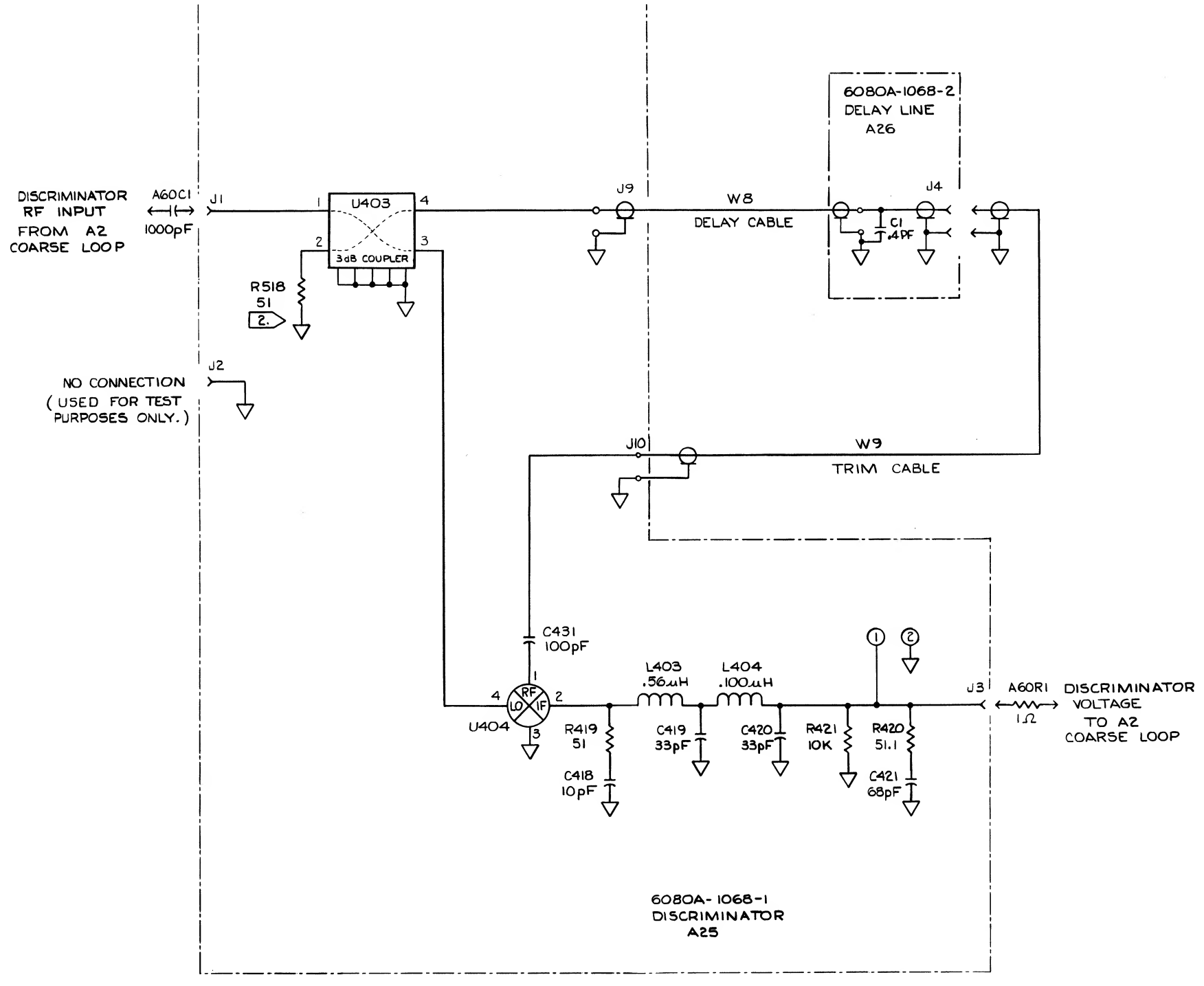
6080A-1036

Figure 8-20. A21 Attenuator PCA





6080A-1668



NOTES: (UNLESS OTHERWISE SPECIFIED.)

1. ALL RESISTOR VALUES ARE IN OHMS.
2. PARTS INDICATED ARE MOUNTED ON TOP OF THE 3dB COUPLER.
3. "A22" REFERS TO THE ENTIRE DELAY CABLE ASSEMBLY. (BOTH BOARDS AND BOTH CABLES.)

6080A-1068

Figure 8-21. A22, A25, and A26 Delay Line/Discriminator PCA